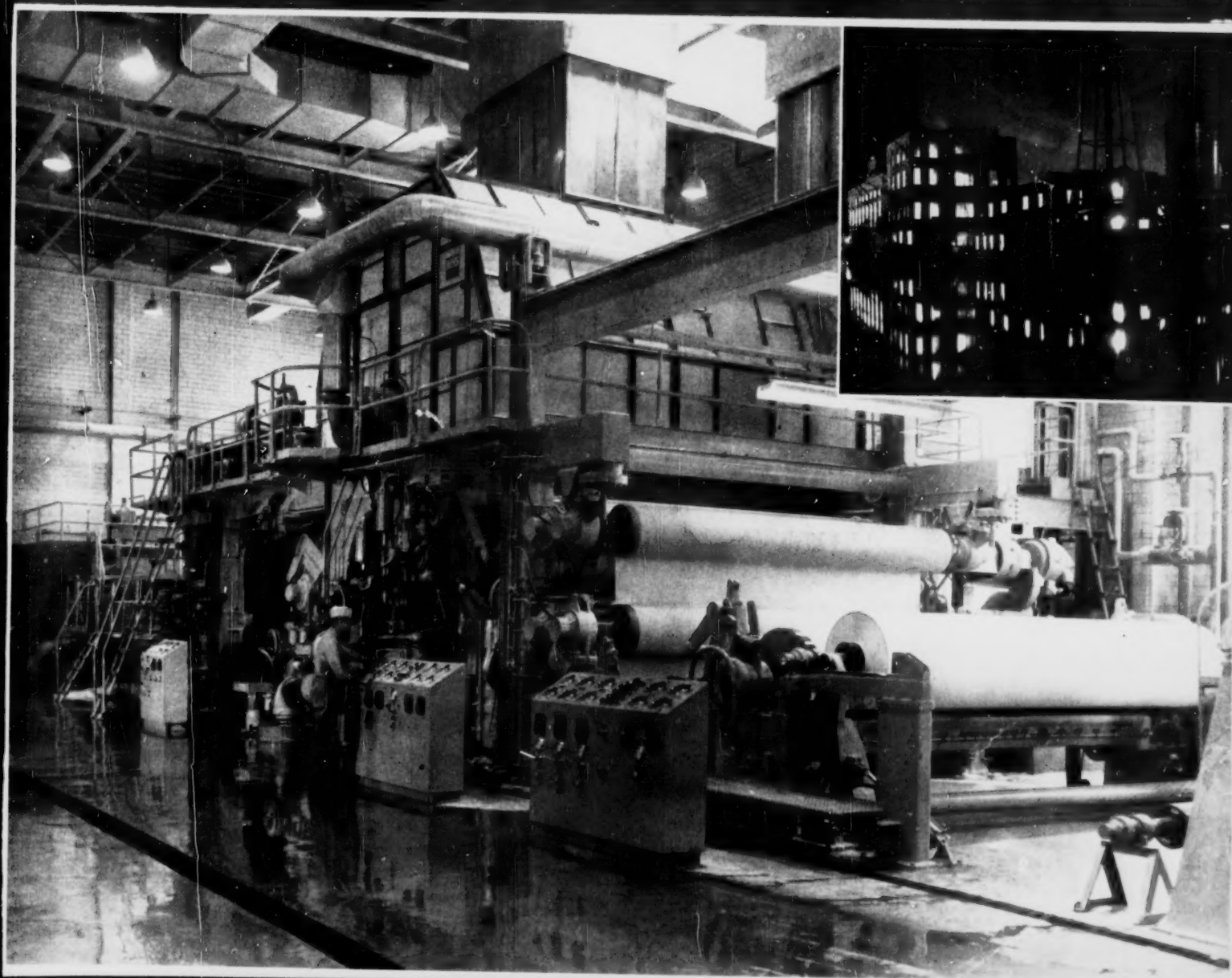


PULP & PAPER

JANUARY 1953 VOL. 27 NO. 1





The difference is high sizing efficiency... using less size!

...when you specify Cyanamid's CYFOR® Rosin Size
a new "fortified" size with superior qualities

In most cases where high sizing tests are specified, CYFOR Rosin Size can offer you economies by meeting these requirements with exceptionally low size addition. This cut in size added may be up to 50% in many instances and will give you *dollar* savings. As an "extra", you will find non-variable sizing tests, uniformity of operation and better machine conditions due to less size in the system—better paper qualities with less size in the sheet.

Another advantage of equal importance is the ability to attain with CYFOR Rosin Size those "difficult" specs that are just "out of range" for ordinary sizes. No more excessive addition of size to complicate machine operation—reach those specs easily with CYFOR. Achieve...

higher lactic acid resistance on milk bottle board

higher ink test on writing and printing papers

*higher water resistance in food containers, butcher wrap, ice-cream pail,
off-set printing stock and coated raw stock*

For further information showing the excellent performance of Cyanamid's CYFOR Rosin Size just call in a member of Cyanamid's Technical Service Staff.

Cyanamid Paper Chemicals: ACCOBRITE® Rosin Size • ACCOCEL®
Dispersants • AEROSIZE® Sizing Emulsions • AEROSOL® Wetting Agents
• ALWAX® Wax Sizes • AZITE® 900 Liquefier • CALMICRO® Calcium
Carbonate • CYFOR® Rosin Sizes • CYNOL® Rewetting and Softening
Agents • PAREZ® Wet-Strength Resins • WAXINE® Wax Sizes •
Rosin Size—Liquid and Dry • Aluminum Sulfate • Sodium Phospho
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DRIVES**

Simplify

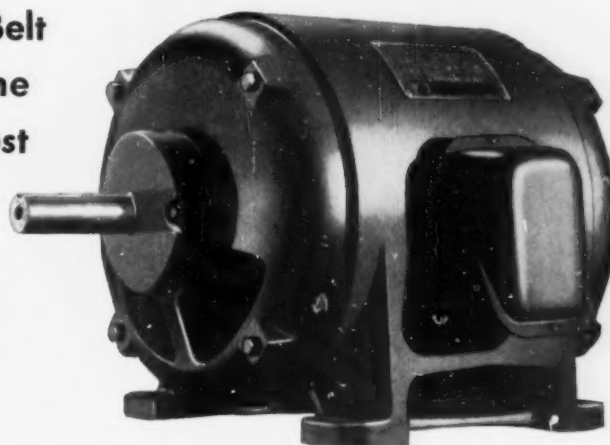
YOUR DRIVE DESIGN PROBLEMS

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Motors, Control and V-Belt
Drives Save Design Time
and Cut Installation Cost**



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Complete matched control for any motor, including manual and magnetic starters, pushbuttons, and variable speed control.



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Standard open drip-proof, splash-proof, totally-enclosed, fan-cooled and explosion-proof, ½ hp and up. Also wound rotor and direct current. Special motors to meet your requirements.



Texrope V-BELT DRIVES

Fixed speed and Vari-Pitch sheaves with stationary or motion control. Famous grommet belt construction. Most complete line of V-belt drive equipment in the industry.

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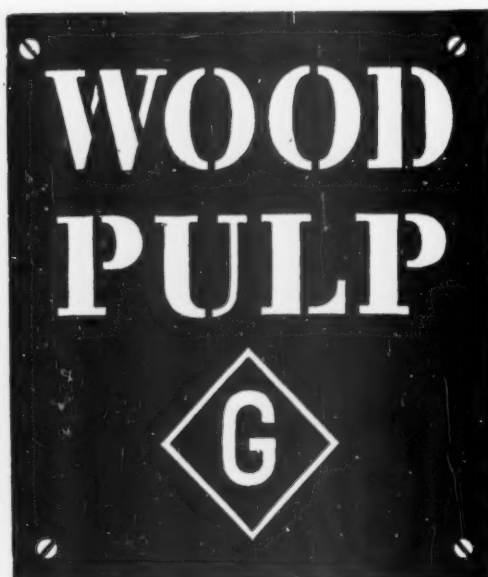
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ALLIS-CHALMERS



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Established 1886



"The struggle of today is not altogether for today . . . it is for a vast future also."

LINCOLN

Out of the turbulent world of today inevitably comes the peaceful world of tomorrow, with "a vast future" of golden promise.

New horizons of accomplishment beckon constantly to the Pulp and Paper Industry, which is moving forward with accelerated pace and constant progress.



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Greetings to the New Administration

The pulp and paper industry looks forward hopefully to a better understanding with the new national administration than it has had in past ones. The appointments of the President-Elect have stirred these hopes.

Mr. Dulles and his State Department and Mr. Wilson and his Defense Department are expected to appreciate the importance of protecting and building up the strength of the North American woodpulp and paper industry and resources in the interest of national defense, here and in Canada. The memory is fresh of a pre-war State Department that had a different concept of pulp and paper essentiality and forced a restriction of woodpulp production, learning its lesson too late—when the submarines closed lanes to European pulp supply.

In Mr. Weeks and Mr. Williams, secretary and assistant secretary of commerce, the nation will have two experienced business men from a famous paper-making state, Massachusetts, and the biggest woodpulp state, Washington, respectively, who know these industries well.

In Ezra Taft Benson agriculture will have a chief whom we expect will bring about a few needed and refreshing changes in the U. S. Forest Service, in one way or another, and also in government attitude toward the healthiest course for developing our forest resource.

In Gov. McKay, from the No. 1 lumber state, Oregon, interior will be headed by another leader who has long been familiar with the needs of this industry and whose attitude toward the development of Alaska—a great future area for pulp development—will have a far-reaching effect on this industry's future. For example, the Indians of Alaska, will be, in effect, his wards. A past administration, more than once, coached and instigated the Indians to throw road blocks in the way of Alaska pulp industry development.

Heintzleman for Governor of Alaska

May we respectfully suggest that Secretary-to-be McKay give serious consideration to the growing support for Frank Heintzleman to be appointed governor of Alaska? (If not already named as this issue appears).

For 34 years as Alaska forester, often alone, Mr. Heintzleman battled for the development of the territory and more than any other individual, for private woodpulp industrial development. But this isn't his only recommendation—he literally lives, breathes and loves all of Alaska. A Republican, holding to his ideals in the midst of an army of antagonists, he *had to be right* to hang on these many past years.

We suggest that his many friends—and there are many in the paper mills as well as pulp mills who know him—could do their country, themselves and Alaska a service by writing to Governor McKay and urging the appointment of Mr. Heintzleman, if there is still time as this is printed.



PULP & PAPER circulates all over the world. It is read in virtually every pulp and paper company office and mill throughout the United States, Canada, Mexico, Alaska, Hawaii, the Philippines, Australia and New Zealand. It is read in many other offices and mills in Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Uruguay, Venezuela, England, Ireland, Scotland, Sweden, Norway, Finland, France, Germany, Austria, Belgium, Holland, Czechoslovakia, Italy, Spain, Switzerland, Soviet Russia, Poland, Yugoslavia, India, Pakistan, Israel, South Africa, China, Japan, Formosa, both near and far around the world, where pulp and paper are made.

— SAVE PAGE 28 — OUR COMPLETE INDEX OF ARTICLES IN 1952 —

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Can Talk Turn Victory to Defeat?

Must we sit by idly while a few persons who seem to enjoy misery threaten to talk us into a slump or recession or depression in the months, or even years, to come?

Is it possible that talk can actually create such a situation?

The ink was hardly dry on the newspapers that proclaimed Republican victory in November, before we heard certain individuals announcing that a "depression" already had set in. And the new administration still has not taken office, but it already is marked for blame.

Actually, these same persons are exposed in a business world every day where we know of many companies doing better than they have for years. We read of one of the paper industry association groups meeting to hear a collegiate expert who predicted a slump by 1954. Just long enough away, so if he is proved wrong, probably everyone who heard him would forget his dire prediction. If he is right, he probably would relish reminding them "I told you so."

Many paper industries this year have gone through a recession—in some cases slight; in some, serious—and fought their way back. Some of the facts of the case are these:

J. D. Zellerbach, president of Crown Zellerbach, said in his company's Oct. 31st report to stockholders: "... by August, paper machines which had been on a slightly curtailed schedule went back into full production."

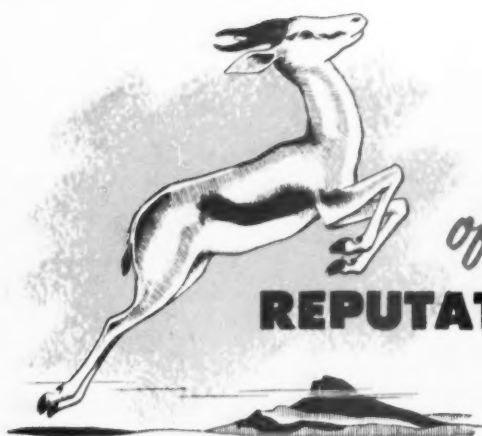
Cola Parker, president of Kimberly-Clark, in a report of same date, said: "... the Kimberly paper machine is back in operation ... with printing paper production on a seven day capacity basis, with the forecast being for continuing full operation and with creped wadding sales increasing, there is sound basis for expecting improvement in the period ahead, notwithstanding the impact of the tax load ..."

And John Stevens, Jr., president of Marathon, reported sales very close to last year's record-breaking fiscal year ending Oct. 31, and "an upturn in volume in late summer and early fall."

Are these companies and others going to be talked out of their victories?

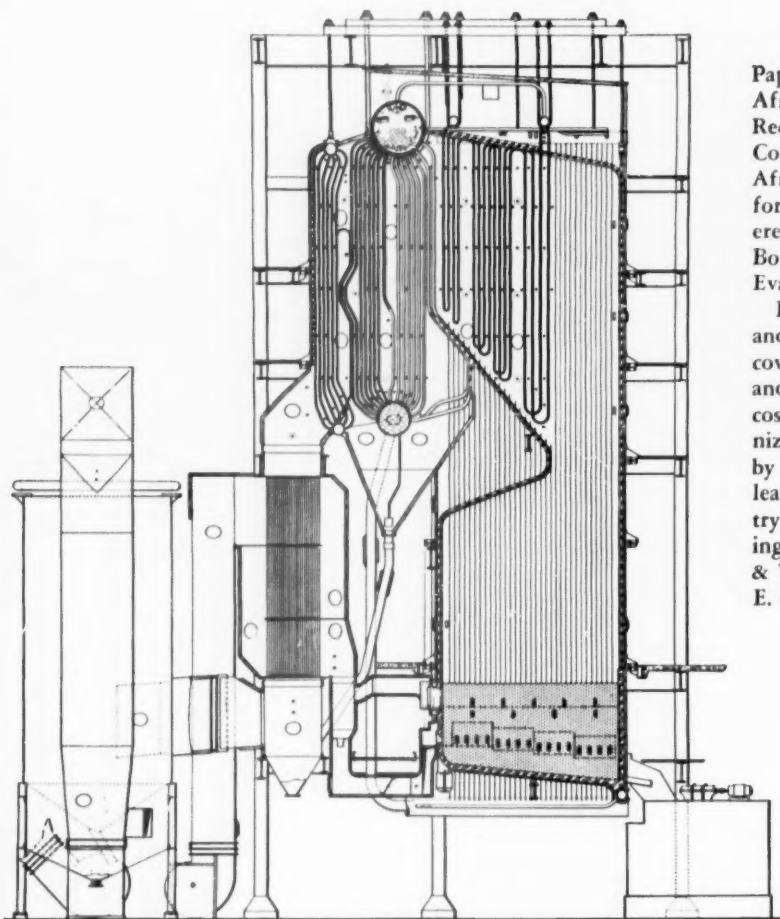


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The SPRINGBOK, national emblem of South Africa.

of B&W Recovery Units **REPUTATION GOES A LONG WAY** *...to South Africa*



200-Ton B&W Recovery Unit with B&W Cyclone Evaporator for Outdoor Installation in Zululand.

Paper Industries, Ltd. of Springs, South Africa, have been operating a 75-ton B&W Recovery Unit for several years. Union Corporation, Ltd. of Zululand, South Africa, have ordered a 200-ton B&W Unit for outdoor installation; it is now being erected. This represents a repeat order. Both units will have B&W Cyclone Evaporators.

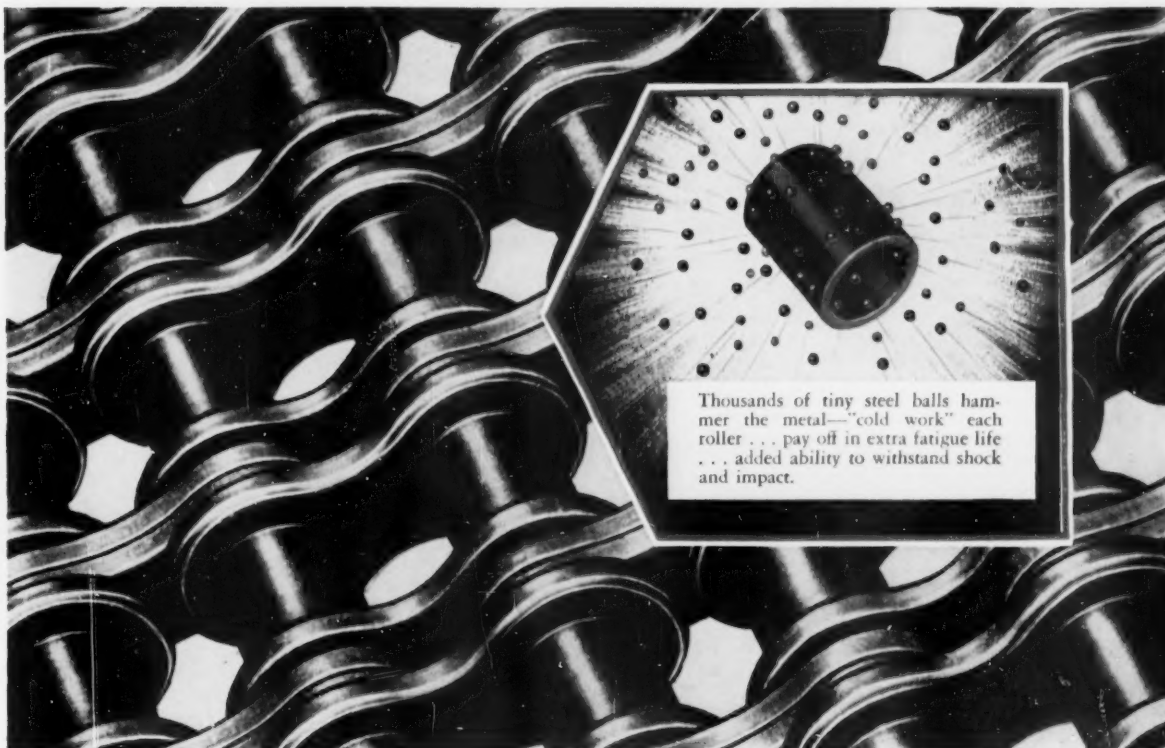
From Oregon to Florida, to Zululand and Finland, the reputation of B&W Recovery Units for highly efficient chemical and heat recovery, reliability, and low-cost operation and maintenance, is recognized. It is a reputation firmly established by the performance of B&W Units in leading mills throughout the paper industry . . . a reputation that is rapidly reaching world-wide proportions. The Babcock & Wilcox Company, Boiler Division, 161 E. 42nd Street, New York 17, N. Y.



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P-771

Get the roller chain that gives you SHOT-PEENED rollers...



Thousands of tiny steel balls hammer the metal—"cold work" each roller... pay off in extra fatigue life... added ability to withstand shock and impact.

look for the darkened rollers!

THERE are sound reasons for the universal acceptance of Link-Belt Precision Steel Roller Chain. Two of them—shot-peened rollers and Lock-type Bushings—are shown here.

Others include Link-Belt's rigid material selection and controlled heat treating—your assurance of absolute uniformity with no weak members.

Whether it's for drive or conveyor service, you can get the best in roller chain from the complete Link-Belt line—single and multiple widths, in $\frac{3}{8}$ " through 3", and double pitch, 1" through 3". Next time you need roller chain, call the Link-Belt office near you.

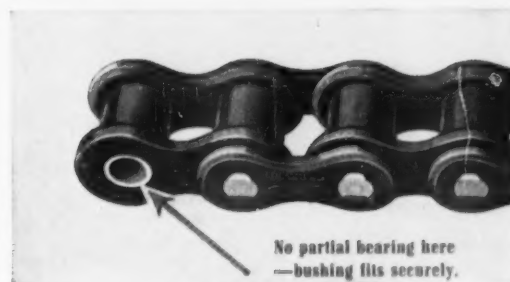


PRECISION STEEL ROLLER CHAIN

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices, Factory Branch Stores and Distributors in Principal Cities.

12,697

January 1953



Lock-type Bushings increase ability to withstand shock loads

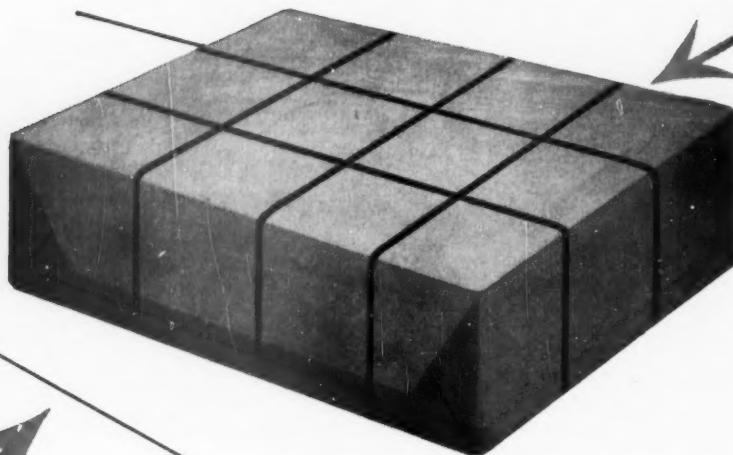
A special manufacturing process securely locks the inside sidebars on the bushing, preventing lateral movement of the sidebars and eliminating a common cause of stiff chains. This Link-Belt development is applied on roller chains through 1" pitch and double pitch roller chains through 2" pitch.

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exporters of wood pulp
to all world markets

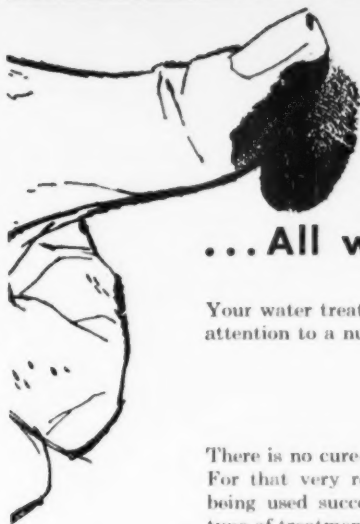
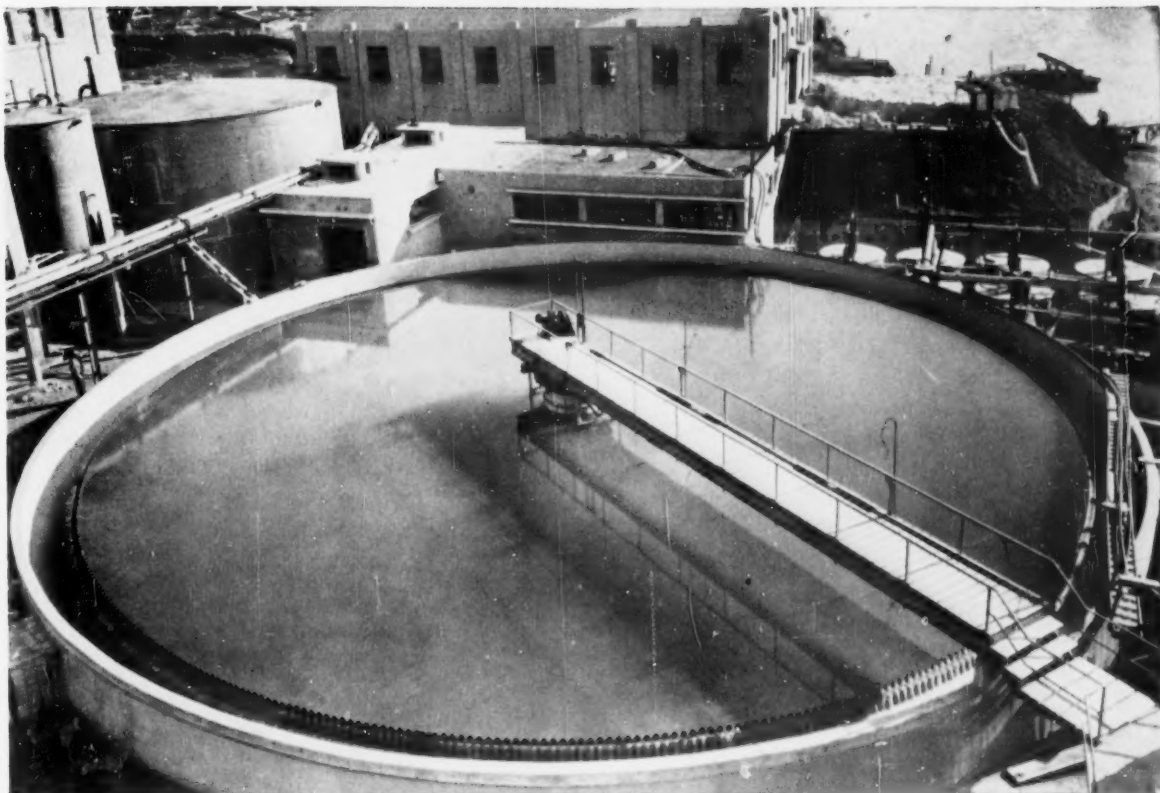
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wood pulp



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Like Fingerprints

...All water treatment problems are different

Your water treatment problem can only be solved by paying special attention to a number of variables such as —

- raw water composition
- rate of flow
- type of treatment
- final result required

There is no cure-all for solving pulp mill water treatment problems. For that very reason, Dorr's experience and Dorr equipment are being used successfully by mills throughout the world. Whatever type of treatment you require — high rate or conventional — it will pay you to put our experience to work for you. And for more information about the many types of Dorr equipment available, ask for a copy of Bulletin No. 9141. THE DORR COMPANY, Stamford, Conn.

Every day, nearly 8 billion gallons of water are treated by DORR equipment.

ABOVE: Celulosa Argentina is the largest alkaline process pulp mill in South America. Located 200 miles above Buenos Aires on the Parana River, its clear process water is provided by two 90' diameter Dorco Hydro-Treaters* which remove turbidity, color, and algae from 25 M.G.D. of river water. Turbidity removal has averaged 97% since initial operation of the Hydro-Treaters, one of which is shown above.

*Reg. U. S. Pat. Off.



Better tools TODAY to meet tomorrow's demand

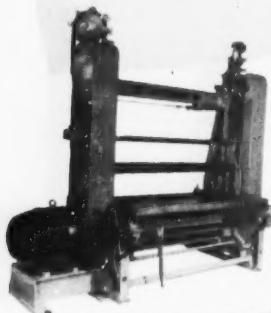
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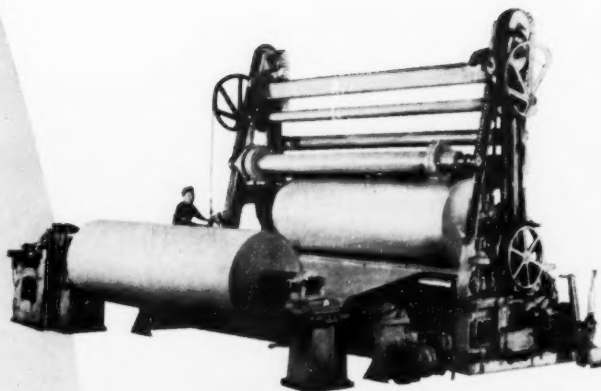
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(Type 10). Popular heavy-duty
slitter-rewinder for finishing
rooms and converting plants.



CAMACHINE TYPE 19 One of the famous line
of Camachine high-speed heavy-duty
mill type winders.

at lower cost

Camachine winders and slitters are built to keep downtime, repair and replacement costs at a minimum. Even when operating at Camachine's record-breaking speeds, vibration and consequent wear are virtually eliminated. And when normal wear calls for replacements Camachine's trained service department stands ready to speed the shipment of new parts. Ask your maintenance men and they will tell you why Camachines stay on the job!

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Camachine slitters and winders are easier on the operator. Simplified controls, handy facilities for accurate adjustments, and other important operating and safety features mean greater production with less operator fatigue. Camachine engineering developments of advanced design provide for faster starts, smoother braking and quicker roll changes. Easy accessibility and precision fittings make routine maintenance speedy and efficient. When you ask experienced operators they'll tell you it's Camachine for them, every time!

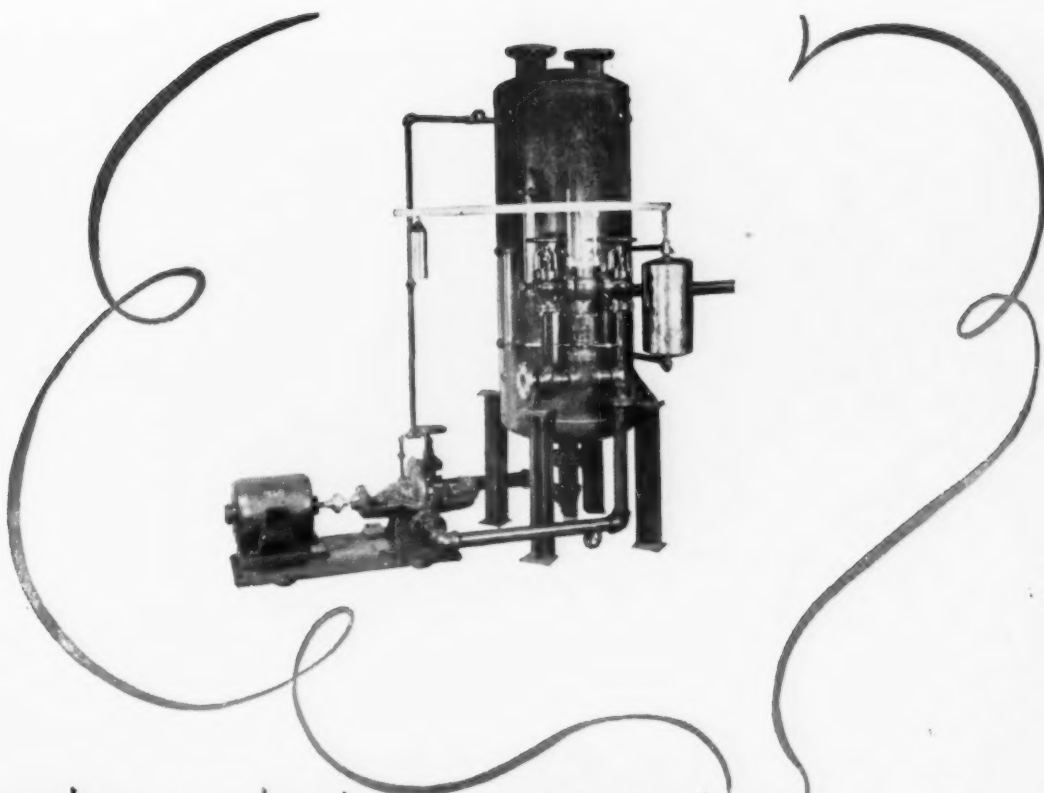
Camachine engineers will be happy to consult with you regarding fast, low cost production, of top-quality rolls.

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AA-264



where there's smoke there's bound to be fire

Here's a quality builder, tonnage booster, steam saver and all-round money maker that has long since become standard equipment on all new paper machines and on many of the older ones—Fulton Dryer Drainage on the Dryer Section.

Already close to 1000 such systems are in service—unshakable and absolute proof that Fulton Dryer Drainage is an indispensable drying aid. Surely where there's so much smoke there must be fire.

The foregoing is not addressed to Superintendents with the more modern machines under their command for they have Fulton Systems. Rather, it is aimed at the top executives and Superintendents operating older machines—pitched to reach mills with smaller machines. It is there that the hesitation is greatest, the need of better drying conditions most pressing.

If we of Midwest-Fulton can prompt you of the older mills, and you of the smaller mills, to investigate Fulton Dryer Drainage, you'll want Fulton Dryer Drainage. If you'll study it on some of the 1000 machines that have it, you'll go still further and demand it.

- Applicable to older and smaller machines? Absolutely yes.
- Too costly? No. The cost (in the form of loss) is incurred by being without it.

Get Technical Bulletin—Now



A typical Fulton Sectional Drainage Unit for small machines.

10% to 30% production increase.

Positive reduction in steam costs—even with tonnage gains.

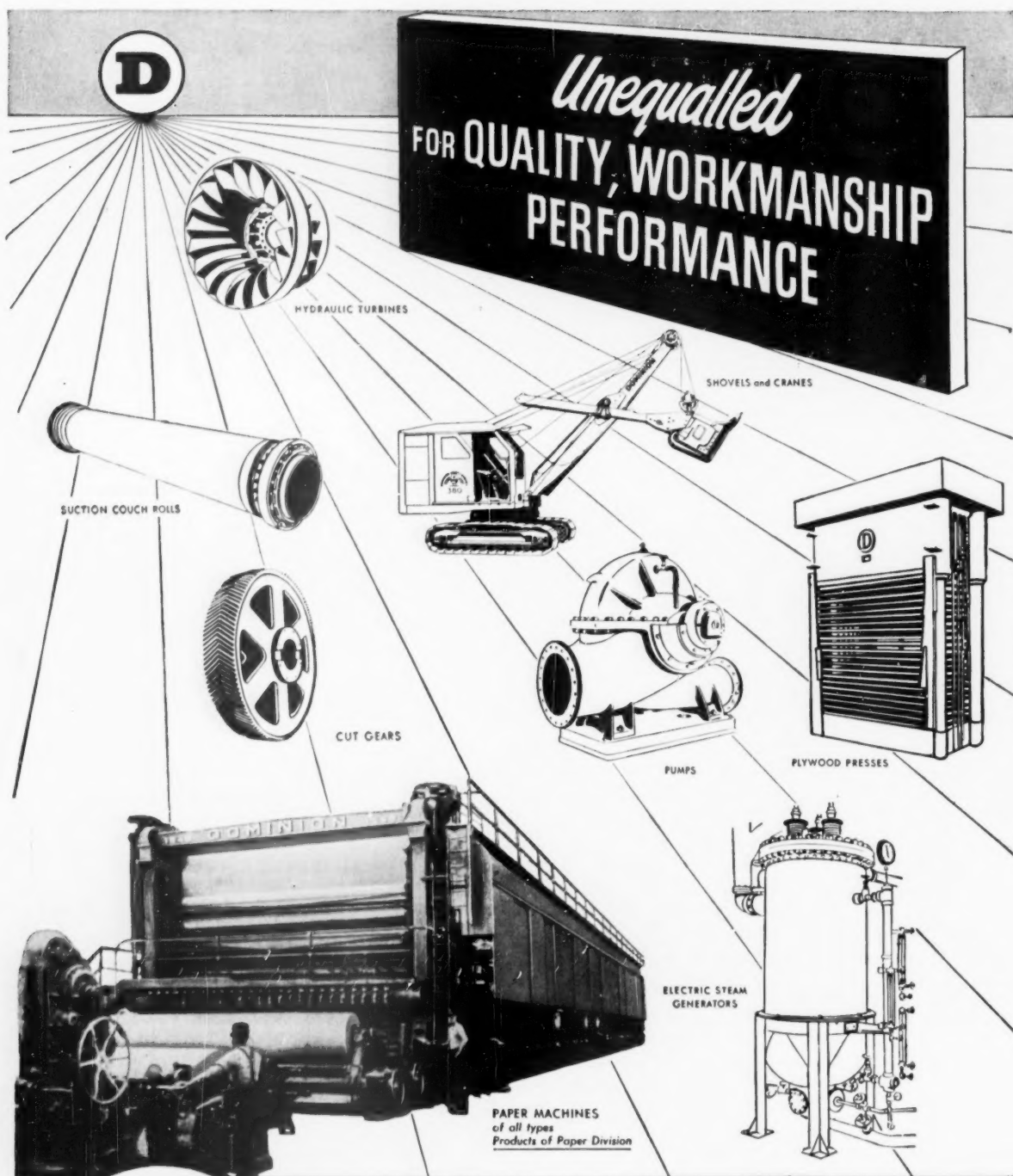
Improved quality. Uniform drying. Less cockle or curl.

Moisture content control.

No over-drying.

Engineering survey-machine study. No obligation.

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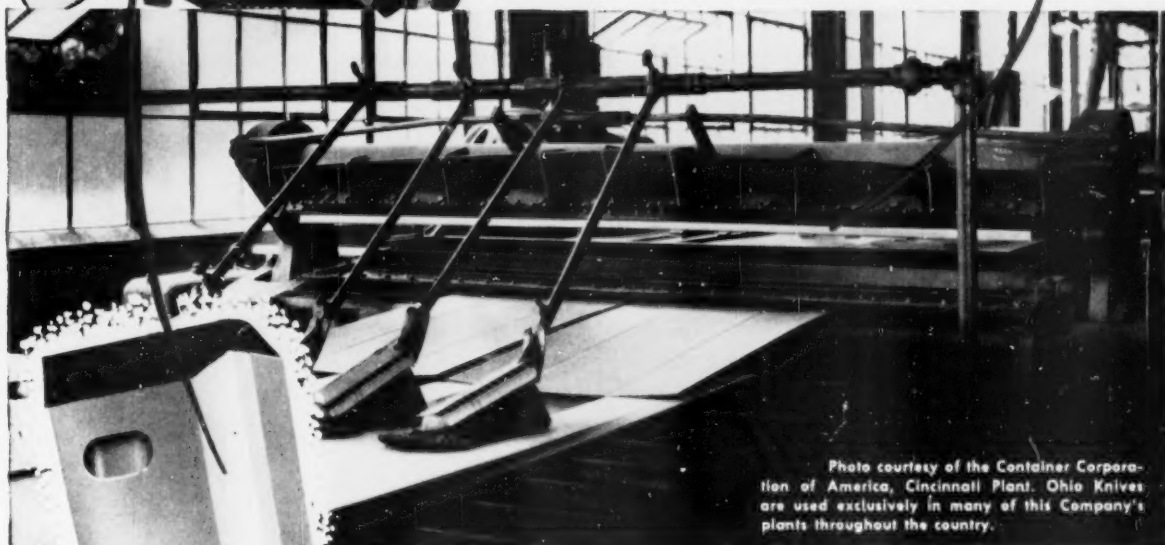


Photo courtesy of the Container Corporation of America, Cincinnati Plant. Ohio Knives are used exclusively in many of this Company's plants throughout the country.

and watch OK CUT-OFF KNIVES run longer ... cut cleaner

That's right—you get greater, more continuous production. You save money, because excessive "downtime" due to faulty knives or easily dulled knives is virtually eliminated when you use OK Knives. They are precision made of the finest alloy steel, especially hardened to stand the heaviest cutting while still retaining their ultra keen edge, giving accurate, clean cuts under continuous operation.

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photo by Maish, Ottawa

Heads Up!... Here Come Tomorrow's Headlines

Far up in the Northern wilderness, rugged woodsmen drive their logs downstream. These men supply our civilized world with raw material for one of our most vital products: Paper.

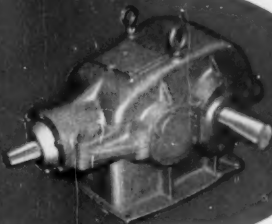
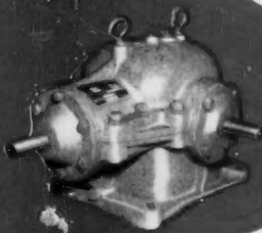
To process logs like these into pulp, more and more mills are converting from calcium base acid to ammonia base acid. Mills that have already made this conversion report many important advantages over the old process.

As additional mills go over to the ammonium bisulphite process, many more thousands of tons of anhydrous ammonia will be required. In an effort to meet this anticipated increase in demand, Spencer Chemical Company is presently rushing construction of a major plant at Vicksburg, Mississippi, which is expected to add 73,000 tons to Spencer's annual ammonia capacity. Target date for completion of this new \$14,000,000 plant is the Summer of 1953.

AMERICA'S GROWING NAME IN CHEMICALS

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Plants located at Pittsburg, Kans.; Henderson, Ky.; Charlestown, Ind.; Chicago, Ill.; and
Vicksburg, Miss. (under construction).





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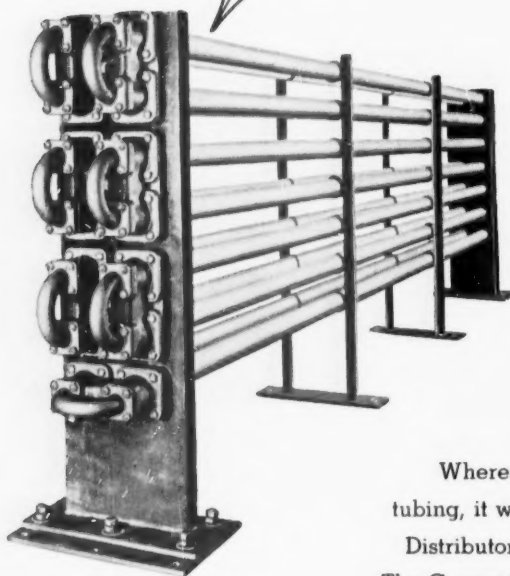
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That's why the manufacturer of these units selected Carpenter Stainless Tubing, Type 316.

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Wherever a product or process involves corrosion-resistant tubing, it will pay to put Carpenter experience to work for you.

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Export Dept.: The Carpenter Steel Co., Port Washington, N. Y. "CARSTEELCO"



Valuable Tubing Data Book

The Carpenter Stainless Tubing Data Book contains over 90 pages of useful information. If you would like a copy, just drop us a note on your company letterhead.



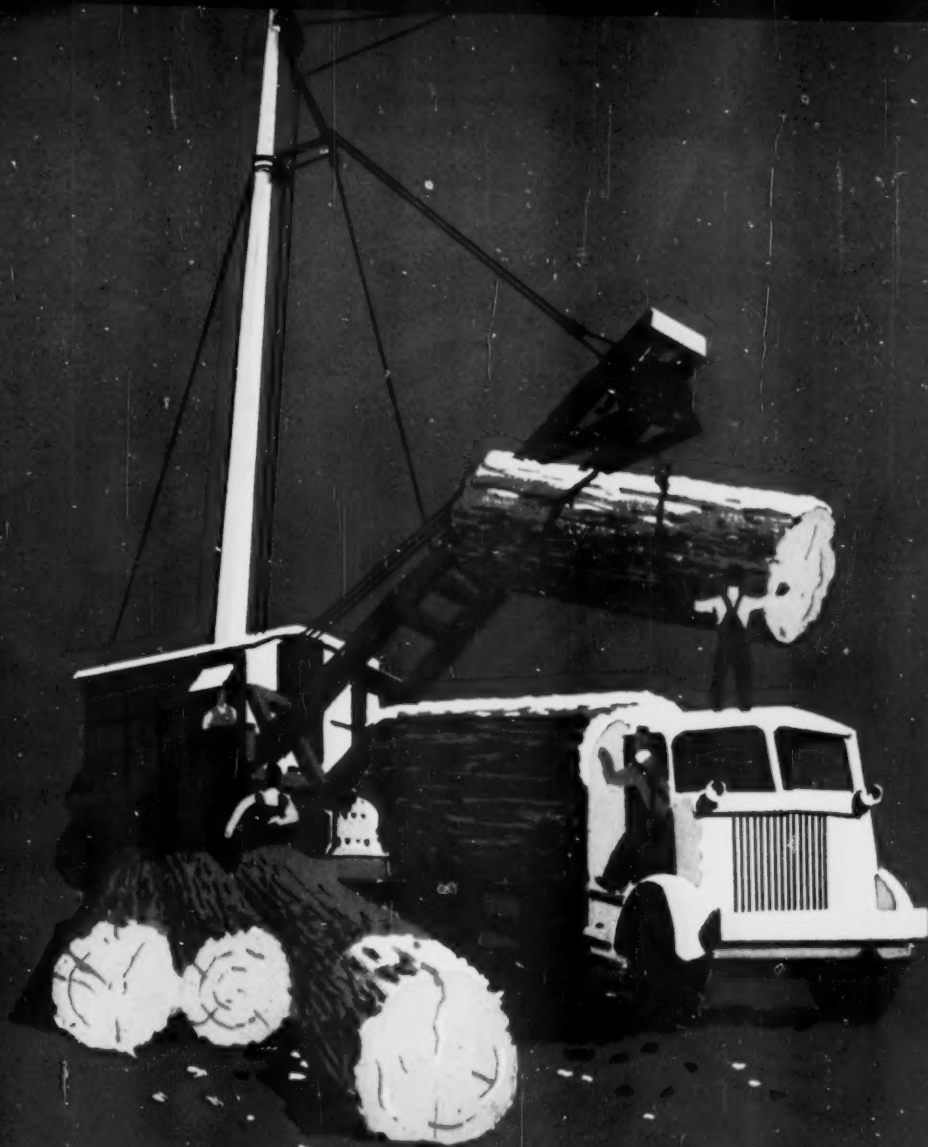
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STAINLESS TUBING & PIPE



- guaranteed on every shipment

PULP & PAPER



FOREST RESERVES

Puget Sound owns or controls extensive timberlands in the Pacific Northwest, and its operations extend from the felling of the trees to the final delivery of finished pulp. Every log is completely utilized; modern hydraulic barkers and chippers result in reducing waste in wood utilization by 20%, and wastes are fully utilized in the alcohol and by-products plants.

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PULP AND TIMBER COMPANY

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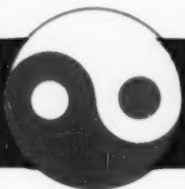


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Papermakers who've worked
with ASTENS all know that
they give superior drying
with maximum endurance.

Economy in the long run

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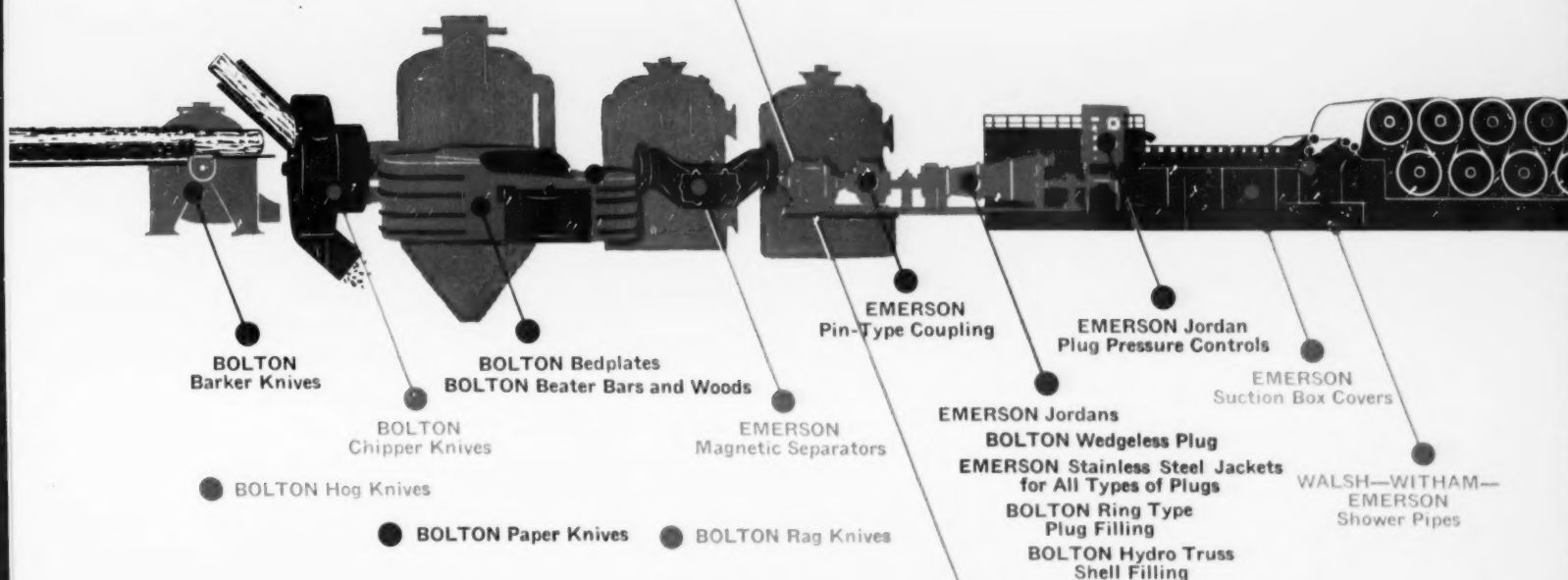
ASTEN-HILL LIMITED
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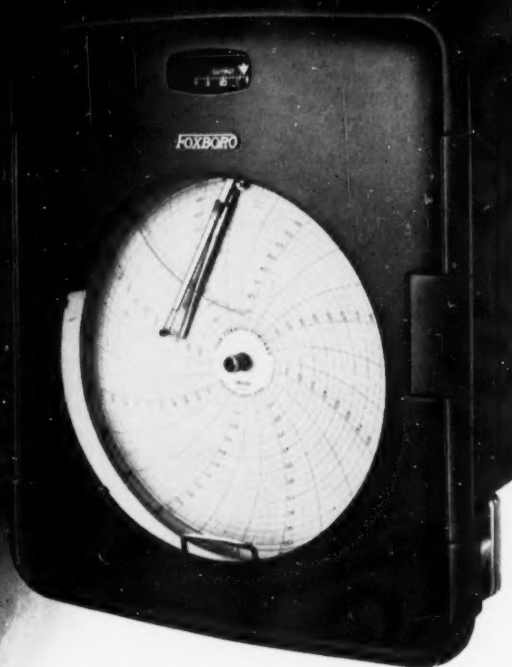
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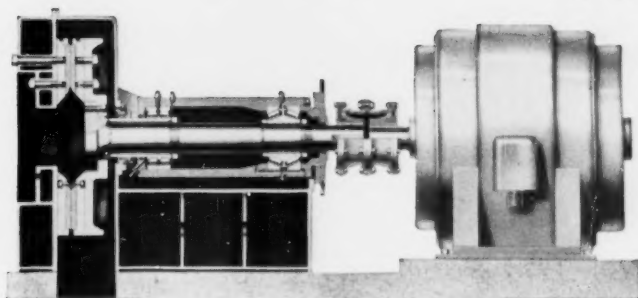
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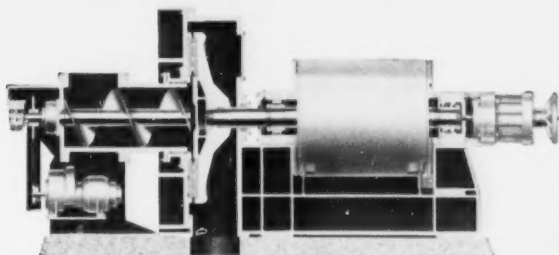
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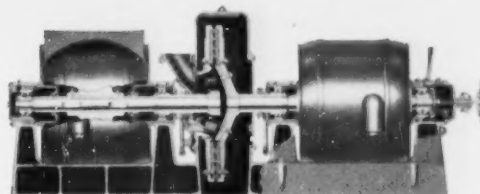
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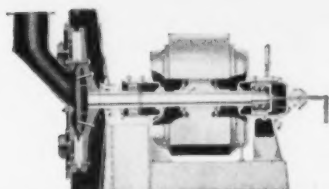
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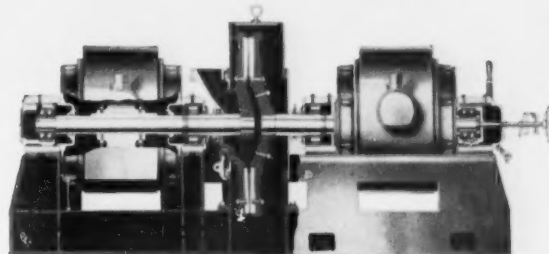
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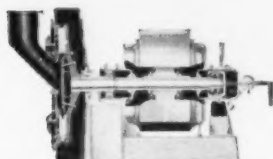
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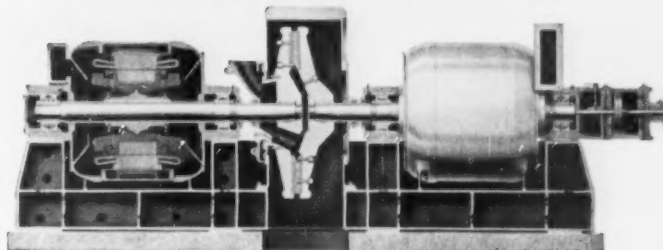
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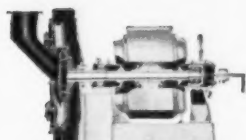
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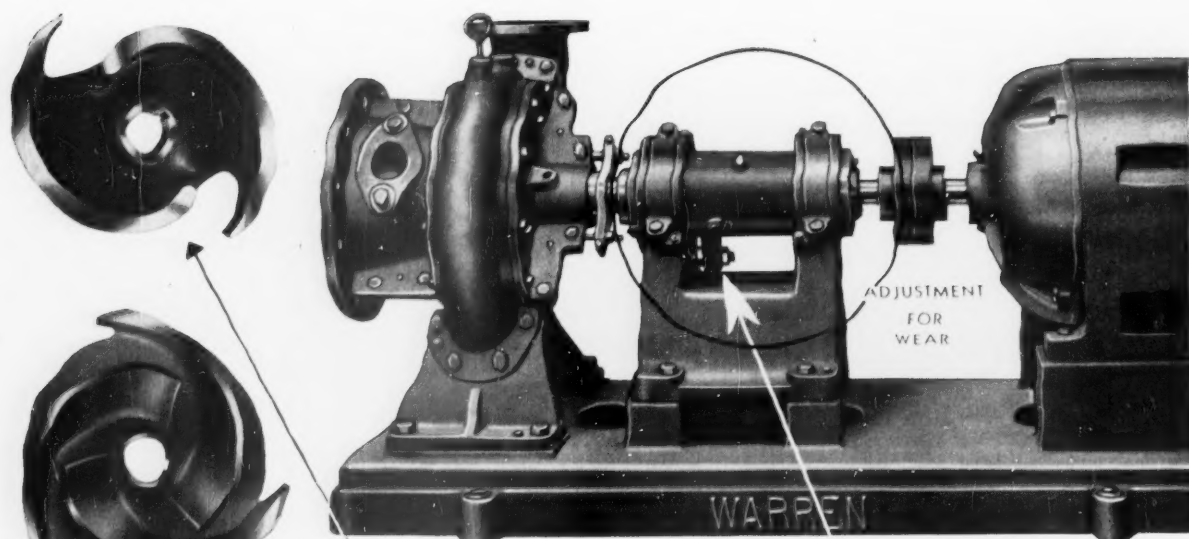
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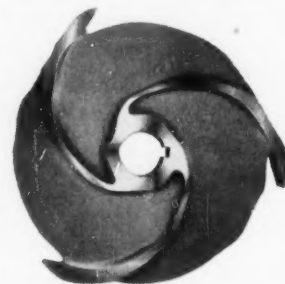
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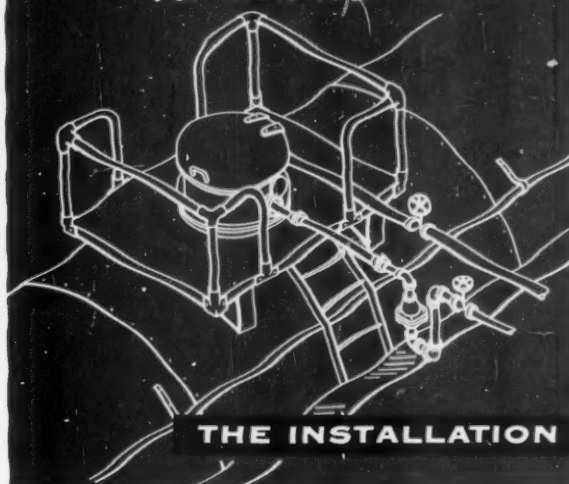
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no unloading delays*

AVAILABILITY:

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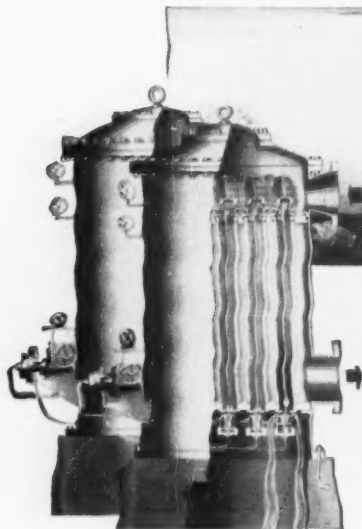
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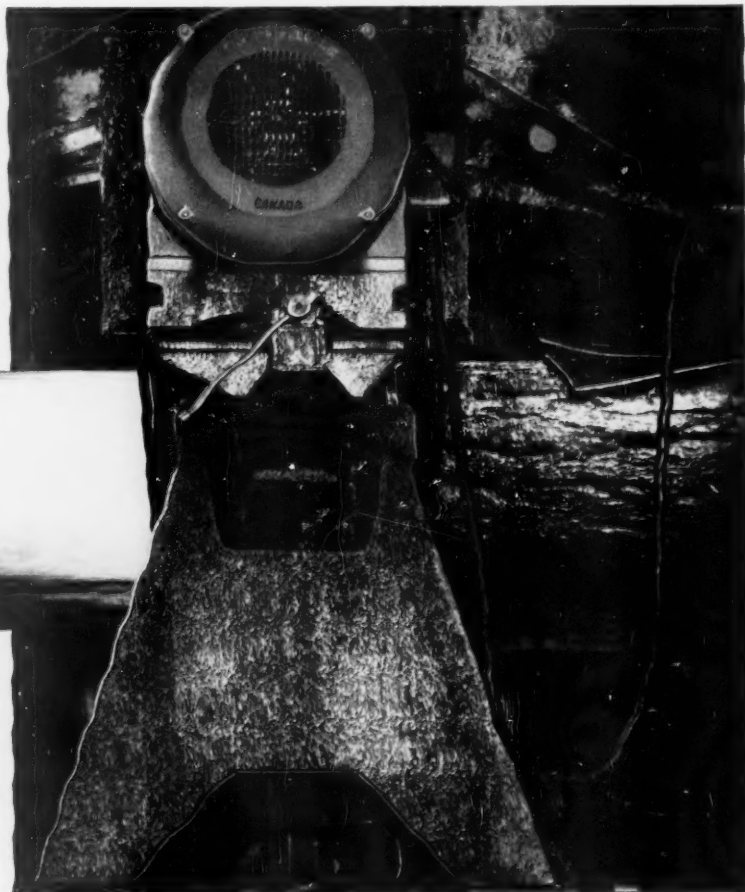
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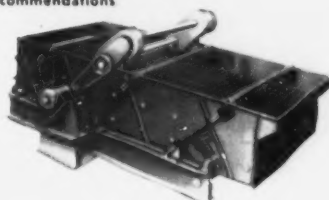


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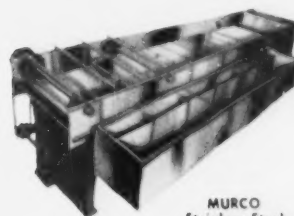
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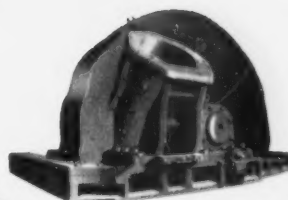
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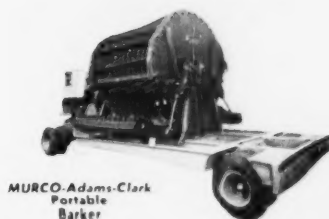
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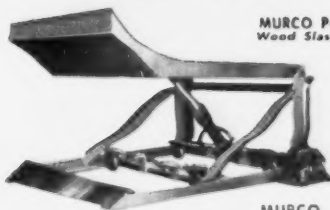
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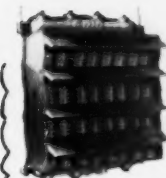
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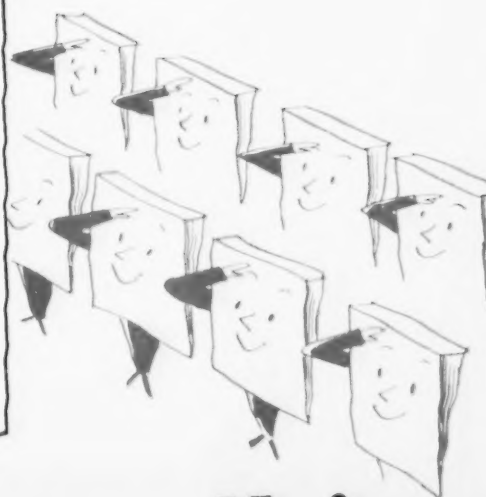
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PORT HURON SULPHITE & PAPER CO'S PULP BLENDING DEPT.

The Kiefers Of Port Huron



FRANCIS KIEFER (left), is President, and E. W. KIEFER (right), is Chairman of the Board of Port Huron Sulphite & Paper Co. The two brothers were photographed in front of the mill entrance.

An originally conceived and executed plan for automatic blending of any desired percentages of four different types of bleached pulp and metering it to three different paper machines is an interesting and unusual installation observed by PULP & PAPER on a visit at Port Huron Sulphite & Paper Co.

The management and staff at the Port Huron, Mich., mill have good reason to be proud of this impressive arrangement of big storage tanks, rubber belt and aluminum-framed conveyors, automatic controls and three and four way valves, with consistency regulators and metering tanks. It was created with an eye to ade-



GEORGE F. DURAND, Vice President in Charge of Engineering, Port Huron Sulphite & Paper Co. He planned blending layout.

quate roominess, efficiency and pleasing appearance.

This mill, while one of the first in the world to make sulfite pulp, closed down pulp operations a couple years ago. Rising costs and other problems made it more practical to purchase its pulp. But it still uses only double-washed three-stage bleached pulps to make its wide variety of paper specialties—65 tons a day of bond and bag, carbonizing, colored papers, onion skin, typewriter, tissue, waxed, supercalendered, bristol, tagboard and others.

Besides the three 132 in. Fourdriniers, two of them Yankees, served by the blending department, it has two 84 in. cylinder machines.

Incidentally, Port Huron, a town of 38,000, is one of Michigan's attractive cities, 55 miles north of Detroit, at the start of the St. Clair River, where all the waters of Lakes Superior, Huron and Michigan must funnel through the narrow channel on the way to the Atlantic. Sarnia, Canada, greatest oil refining center of whole British Empire, is just across the river, and in summer 120 ships a day will pass here.

Here is the story of Port Huron Sulphite's unusual and impressive pulp blending establishment:

Pulp Blending

Port Huron still operates its own bleach plant—double washing, three-stage as mentioned—even though it no longer makes pulp. This bleached pulp is pumped from the bleach plant several hundred feet to an Oliver washer-thickener on the operating floor of the blending plant. Only one man is required to receive it as the system is entirely mechanical with its own control board. This is final washing for all the pulp and thickens the stock to 8 per cent consistency.

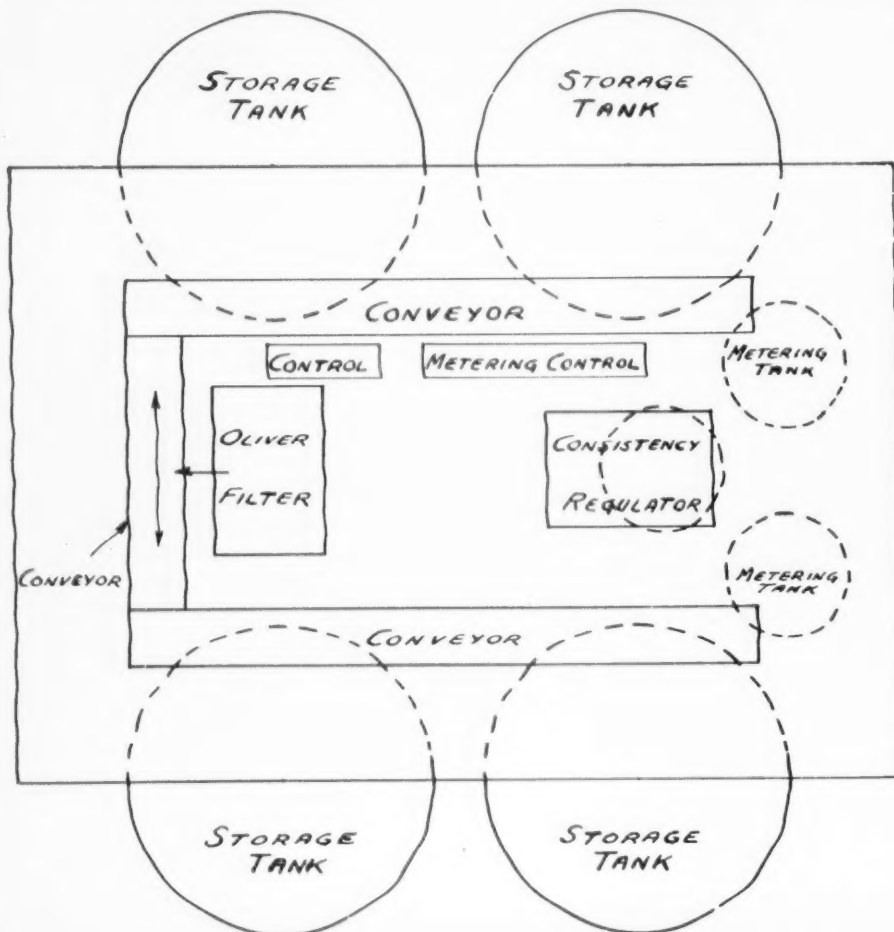
This thickened stock is delivered by belt conveyor to any one of the four 25-ton wooden storage tanks. These are unagitated vertical tanks. The bottom cone of each tank feeds directly into a high density centrifugal pump.

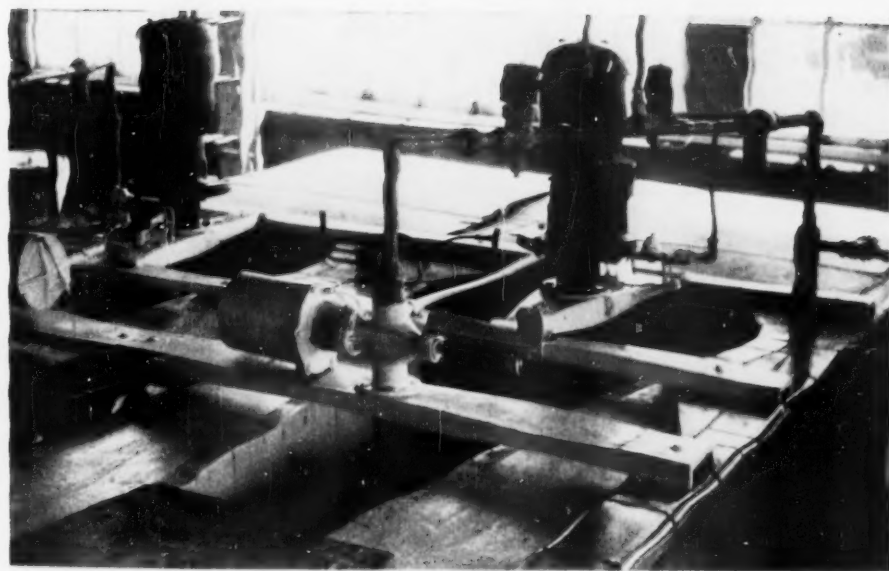
The metering and blending is done as follows:

Each of the three paper machines has

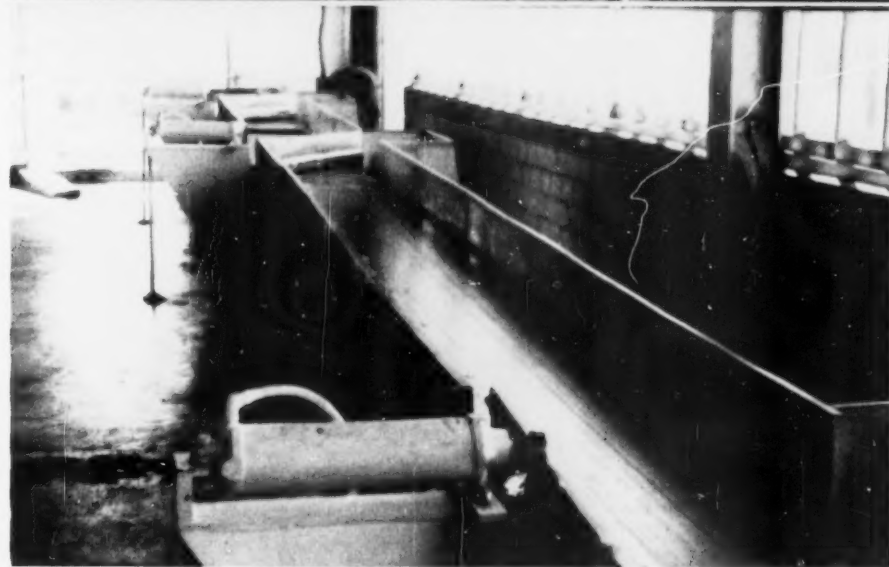
SKETCH OF GENERAL PLAN OF OPERATING FLOOR OF PORT HURON SULPHITE & PAPER CO.

Pulp Storage and Blending Department—Providing Automatic System for Blending Any Combination Percentages of Four Different Stocks.

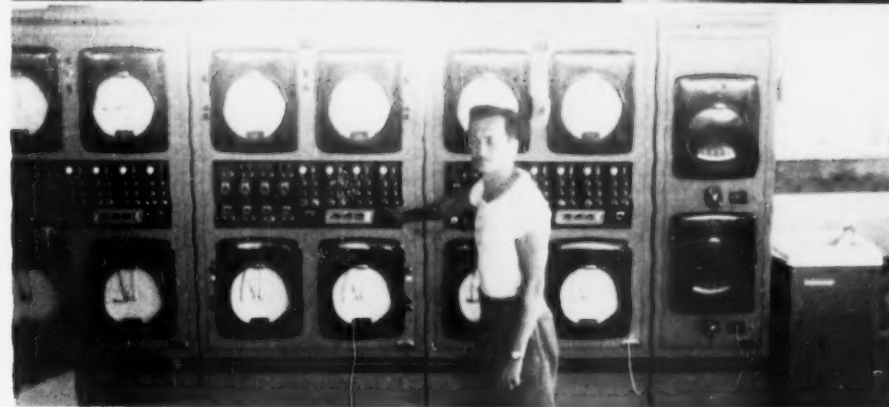




TOP VIEW—DEZURIK CONSISTENCY REGULATORS are over metering tanks in Port Huron Sulphite's Blending Department. They admit portions of pulp at suction of pump. Rest, at regulator head.



MIDDLE VIEW—AIRCRAFT-TYPE ALUMINUM CONVEYOR CHANNELS, or mixing station trays at Port Huron Mill. Gate is seen at mixing station which permits pulp to drop in one or other tank.



LOWER VIEW—FOXBORO CO. SUPPLIED THIS PANEL BOARD for Port Huron Blending. There is section on board for each of three paper machines. Pushbuttons caused filling of beaters. Once formula is set, it can be followed automatically.



NORMAN O. SEAGRAVE (left), Vice Pres. in Charge of Sales at Port Huron, and **JOHN MAES** (right), Paper Mill Supt. at the eastern Michigan mill.



L. TAYLOR SUMMERS (left), Secretary and Technical Director of Port Huron Sulphite, and **JOSEPH L. HOOLIHAN** (right), General Superintendent of its operations.

its own metering tank, 5 ft. in diameter and 18 ft. high each, made of wood. They are high and narrow to facilitate accuracy in measuring. The consistency of the stock going to the metering tanks is controlled by the regulator just ahead of the metering tanks.

On the Foxboro panel control board shown in picture, there is a section for each machine. Once a formula is set, the pattern can be followed automatically. A button is pushed each time to fill a beater, which takes only two or three minutes.

The operator sets up the control to use any desired volume of any or all of the four kinds of stored pulp. Then by pushing a single button the control delivers the properly metered batch to the proper metering tank, shuts down, and notifies the beater room that the batch is ready.

When the batch has been pumped to the mixing beaters where size, alum, color and pigments may be added, the control notifies the operator so that he can again push a single button to repeat the batch, or he can alter the formula if required.

One man per shift washes and stores all bleached pulp and prepares the furnish for the three machines making lightweight specialties.

Pictures here show the two DeZurik Shower Co. consistency regulators over the metering tanks, which admit portions at suction of the pump and the rest at the regulator head. Another picture shows the aircraft-type aluminum conveyor channels or mixing station trays raised off the floor about waist high. There are two 24 in. wide, 60 ft. long conveyors with 125 ft. rubber belts. Squirrel cage open pulleys are used to clear pulp under the belt. Gates which open at mix stations to permit pulp to drop in one or another tank show in the picture.

There is extensive galvanized spiral weld piping used. Also a large number of automatic interlocked air-operated 3-way

and 4-way DeZurik stainless steel valves. The pumps serving the storage tanks are Shartle vertical suction pumps driven by 40 hp. motors.

Executives of Port Huron

Accompanying this article are photographs of executives of the Port Huron Sulphite & Paper Co. It is headed by two brothers, E. W. Kiefer, chairman of the board, and Francis Kiefer, president.

George F. Durand is vice president in charge of engineering and a director. He planned the arrangements of the storage and blending department, as he did many other installations at this mill. A graduate of the University of Michigan, he formerly was with Consolidated Water Power & Pa-

per when it operated at Port Arthur, Ont.

Norman O. Seagrave is vice president in charge of sales and also a director.

Joseph L. Hoolihan, general superintendent, came to Port Huron from Kaukauna, Wis., where he was with Thilmany and where his mother and others of his family live.

John Maes, paper mill superintendent, is an oldtimer at Port Huron, starting his career in that mill.

L. Taylor Summers is secretary and technical director of the company, and obtained his chem. eng. degree at University of Michigan.

His father, Bertrand S. Summers, although pushing 80 years old, is still active as the research engineer for Port Huron.

EXHIBITS TO HIGHLIGHT PAPER WEEK

It is expected that Sydney Ferguson, Mead chairman, will be elected to a second term as president of the American Paper & Pulp Association at Paper Week in February, and that Don Leslie, new president of Hammermill, will continue as its first vice president.

Exhibits of progress made by mills and regional groups in company "communications" and community relations will be a feature all day Wednesday Feb. 18 at the Paper Week this year at the Waldorf-Astoria. This will be one of the highlights of the meeting, indicating the progress in a two years' campaign in this field under the chairmanship of Nathan Bergstrom, president of Bergstrom Paper Co., Neenah, Wis.

In that time, many mills have started new company magazines or papers, new billboard programs, and other activities which they will be proud to show off. A big job unquestionably has been done, and according to policy laid down by the APPA from the outset, it has been a job done at mill and mill town level—each in its own style to meet its own individual needs.

The annual APPA dinner will be the evening of Feb. 18 in the Waldorf Grand Ballroom. The annual "Open Industry" meeting is set for Wed. afternoon at 2 p.m. on the Starlight Roof of the Waldorf. The usual group luncheons and meetings, etc., start Sat. at 10 a.m. Feb. 14 with the Trustees of the Institute of Paper Chemistry at the Canadian Club, resuming Sunday with various sessions in the Waldorf including the Pulp Producers, and carrying right through to a series of meetings on Thurs., Feb. 19, all of which will be over that afternoon.

Joint Luncheon By Syracuse-Maine Alumni To Honor Libby

Plans are being completed for a "Prof. C. E. Libby Day" during Paper Week in New York City in February, and Syracuse and Maine alumni will hold their traditional luncheons jointly in his honor. Prof. Libby is a graduate of the University of Maine; headed the pulp and paper department at Syracuse for many years; and is now head of a similar department at North Carolina State College.

Representatives of the two alumni groups met at Fraunces Tavern in New

SYDNEY FERGUSON,
Paper Week's No. 1
Man—came to America
as young accountant
from London—rose to
top in The Mead Corp.
and his industry.



York City, Dec. 9 to lay plans. Present for Maine were: Marsden C. Hutchins, American Cyanamid; F. A. Soderberg, General Dyestuffs; Ted Prescott, Scott Paper; and Donald D. Taverner, Maine Alumni Association. Representing Syracuse were: L. M. Sutherland, Sutherland Refining Corp.; Clark E. Snook, Nopco Chemical; M. J. Landberge, General Dyestuffs; Daniel V. Lent, W. R. Grace Co.; and Louis B. Taylor, Columbia Southern Chemical. Mr. Hutchins is chairman of the annual Maine luncheon committee, and Mr. Sutherland is president of the Syracuse pulp and paper alumni.

Plans for Montreal

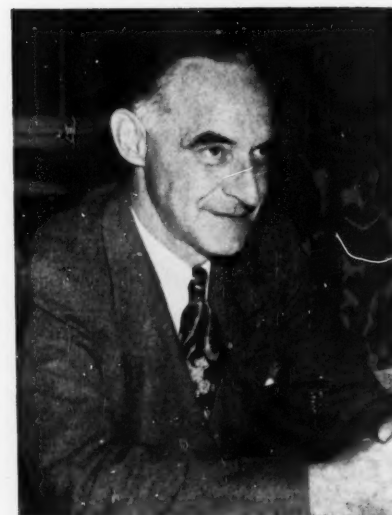
Papers covering all phases of the industry will be presented at the annual meeting of the Canadian Pulp & Paper Association January 28, 29 and 30 at the Sheraton-Mount Royal Hotel, Montreal, Que.

Some of the subjects announced are machine-room ventilation at Abitibi's Iroquois Falls mill, modernization of the electrical distribution system at Powell River Co., woodyard conveyers, modification of the feedwater treatment system at Provincial Paper's Port Arthur mill, production of high yield sulfite pulp at Price Brothers & Co. and experimental ammonia base pulping of hardwoods.

Employees in Appleton Plants Turn Out Big Vote

Outstanding records in the national election were made by three companies affiliated with this industry in Appleton, Wis. At Appleton Wire Works, 251 out of 260 employees voted; at Kimberly-Clark's Atlas Mill, it was 115 out of 121; at Valley Iron Works, 277 out of 298 voted.

CLOSE TO EISENHOWER



IN SEVERAL U. S. ADMINISTRATIONS, there have been paper industry executives considered to be "close" to the President. "Closest" to IKE of men identified with the industry is GEN. LUCIUS D. CLAY (above). His friends have noted that he is one of the closest friends and advisers to the PRESIDENT-ELECT. Gen. Clay was one of Gen. Eisenhower's conferees on the Helena. Gen. Clay was President of Ecusta Paper Corp., Pisgah Forest, N. C., before that company was acquired by Olin Industries and since then he has been Chairman of the Board of Continental Can Co., owners of a 400 ton kraft pulp and paper mill in Hopewell, Va., and a large number of fiber drum and paper container plants.

Johnsons Led Them All!

C. G. R. "Rusty" Johnson, Kimberly-Clark's assistant chief engineer helped out 113 other Johnsons to fill up several pages in the new Neenah-Menasha, Wis., telephone directory and lead all other family names. The Smiths were next with 89; the Millers had 82.

Bloomquist Visits Coast

Walter Bloomquist, General Electric industrial power engineer, Schenectady, N.Y., and general secretary of the Engineering Division of TAPPI made his third trip to the Pacific Coast recently and his second in two years. He visited Oregon, Washington and Idaho.

New Newsprint Record

Breaking all records for any previous month in history, North American mills produced 599,935 tons in October (502,791 in Canada and 97,144 in U. S.). They shipped 583,948 tons according to the Newsprint Service Bureau. Output in October, 1951, was 592,814 tons, shipments were 595,201.

LARRY SMITH was the name of the winner of the Flaherty Medal for 1952 at the University of Washington, awarded annually to the varsity football player who was the greatest inspiration to the entire team. A player of the same name won the Flaherty Medal in 1920. Probably you guessed—the latter is his father, who also happens to be vice president and general manager of the MILLER FREEMAN PUBLICATIONS, which includes PULP & PAPER. Incidentally, he is seeing this for the first time in print.

NEWS FROM SOUTH

NEW TEXAS MILL -- PAPER SCHOOL PLANS

At Last Mill at Evadale Is Set to Be Built

Announcement is made by Houston Oil Co., Houston, Texas, and Time, Inc., that they will go ahead with a new 250-ton bleached sulfate pulp and paper mill under name of East Texas Pulp & Paper Co.; with site at Evadale, about 15 miles north of Beaumont, Texas.

Original application for a certificate for the mill was made in May 1951, jointly by Houston Oil-Time and Scott Paper Co. but Scott withdrew in Dec., 1951 after acquiring Soundview Pulp Co., Everett, Wash. Site previously considered by several paper companies and once by Henry Kaiser for a paper mill. Pulpwood in part is from the Southwestern Settlement and Development Co., subsidiary of Houston Oil, holding more than half million acres of forest land. Evadale is a short distance east from Silsbee, where Kirby Lumber Corp. is planning a big modern sawmill with log barking and slab chipping for waste recovery.

Directors of the new company include: David W. Brumbaugh, vice president, Time, Inc.; Harold Decker, president, Houston Oil of Texas; Artemus L. Gates, director, Time, Inc.; R. A. McDonald, director, Crown-Zellerbach Corp. and administrator of NPA; A. G. McNeese, Jr., assistant to president, Houston Oil; Foster Parker, treasurer, Houston Oil; Charles L. Stillman, executive vice president, Time; Gordan Wattles, president, Webster Tobacco and Houston Oil director.

Expansion of Mills In The Southeast

The forest products industries of the Southeast are continuing to make sound progress as a PULP & PAPER editor was able to reaffirm in a recent visit to pulp and paper operations in the area, particularly in Virginia and North Carolina, and in discussing forestry future and policies with men in industry and government. Some of the findings are summarized below and will be discussed at greater length in future issues of this publication.

Good forest management is the rule rather than the exception in these two states. And it is only necessary to name a few—such as Camp Mfg. Co.; Chesapeake Corp. of Virginia; Johns-Manville Corp.; Mead Corp.; etc.—to make the point. In Virginia, most of these companies also work through Virginia Forests, Inc. as a central agency for putting across to the general public and the small landowner a program for fire protection, conservation and reforestation. According to W. E. Cooper, executive secretary for the group, utilization in Virginia at the present time amounts to about three million cords annually by the lumber industry and one million cords in



H. A. HELDER, who also has been named a Vice Pres. of Champion, continues as Div. Mgr. at Canton, N. C. He went there in 1908 from Penn College as chemist, became Mgr. in 1939, Div. Mgr. in 1946.

W. R. CRUTE, Division Mgr. of The Champion Paper & Fibre Co., Pasadena, Texas, has been elected a Vice President of the company and will continue at Pasadena, where he helped build the original pulp mill. He went there in 1936 from Canton, N. C., where he had been Plant Engineer and Power Engineer. Now Pasadena has four paper machines besides the pulp mill.



JOHN F. HOOPER (left), appointed Chief Chemist for the new Rayonier Inc. dissolving woodpulp mill being built at Jesup, Ga. A University of Maine graduate, he has been at the Shelton, Wash., Laboratories for Rayonier for 12 years.



JAMES B. GREGORY (right) named General Industrial Agent for Seaboard Air Line Railroad, Norfolk, Va., by Warren T. White, assistant Vice President in charge of industrial development. His new assignment will place him in the six Southeastern states served by Seaboard where are located many of the country's largest pulp and paper mills, and much of the nation's standing timber reserve.

pulpwood. Many of the lumber companies and other wood-using industries are now behind the program to protect and perpetuate the forests of Virginia.

J. E. & M. S. Jones, of Beaverdam, Va., were granted a Tree Farm Award in October by Virginia Forests, Inc., in co-operation with the Virginia Forest Service, the Soil Conservation Service, and the Virginia Polytechnic Institute Extension Service, as part of the forestry pro-

gram of the groups. The Jones brothers were honored for their fire protection measures, their forest cutting practices, and their reforestation program. Work of this kind is doing much to educate the small holder.

In North Carolina, Fred H. Claridge, state forester, feels that from the point of view of wood supply there is still room for perhaps a 100 to 200-ton pulp mill in the area of Lee and Chatham counties. In this area there are no large ownerships, with the forest land held principally in the hands of small private owners. The growth rate is about three-fourths of an acre per year, and he feels there is enough timber to support a small pulp mill on a continuing basis. One of the main points of progress in North Carolina is revealed in Mr. Claridge's annual report for 1952 which shows that his department has increased its forest management service to small landowners from 553 examinations in 1948 to 1,345 during the past year, with the total amount of board feet marked increasing from 19,413,000 board feet in 1948 to 35,440,000 in the 1951-52 period.

Signs of the healthy condition of the industry in the area is demonstrated by the great amount of improvement and expansion work. Some of this includes:

Standard Paper Mfg. Co., Richmond, Va. Continued improvement of its three plants with emphasis on central power plant for operating power.

Manchester Board & Paper Co., Richmond, Va. Frank Brown, president, told PULP & PAPER he hopes to have his new \$3,000,000 board mill ready late in 1953. This plant will contain a 135-inch 8-cylinder machine.

Chesapeake Corp. of Virginia, West Point, Va. This company is continuing its program of improvement which has already been reported in these pages, with the latest addition being one of the finest machine shops in the country.

Camp Mfg. Co., Franklin, Va. This is one of the best integrated operations in the country, with sawmill and pulp and paper and bag-making operations all on the same grounds. In construction now is a modern bleach plant which will be completed late in 1953. Just completed is a new office building as an extension to the old one.

Halifax Paper Co., Roanoke Rapids, N.C. The big new (246-inch) Beloit machine here is being installed in the completed building, and operation will begin soon after the first of the year.

Continental Can Co., Hopewell, Va. New machine building is complete, and the big Bagley & Sewall machine, largest in the area, will be running soon.



NEW OFFICERS ELECTED for Southern division. From left, are: Jesse Bradbury, Southland Paper Mills, retiring secretary-treasurer; J. J. Thompson, also from Southland, retiring chairman; R. W. Burnett, Crossett Paper Mills, new first vice-chairman; Tom Coldewey, St. Joe Paper Co., new chairman; and C. A. Barlow, Gulf States Paper Co., third vice-chairman.



CONGRATULATIONS FROM OLD TO NEW. Cecil Curry, National Container Co., retiring chairman of the Southeastern Superintendents, extends a welcoming hand to Vincent K. Shannan, Mead Corp., new chairman. Watching are: M. L. Boinest, Albemarle Paper Co., secretary-treasurer; Clyde G. Jones, Ecusta Paper Co., first vice-chairman; T. R. Barnes, Champion Paper Co., second vice-chairman; and R. B. White, Sonoco Products, third vice-chairman.



FOURSOME at Roanoke (l. to r.): was A. C. Reece, Buckman Laboratories, Inc.; Murray Bennett, Chemical Linings, Inc.; J. L. Hoolihan, Port Huron (Mich.) Sulphite Paper Co.; and J. W. Marcille, Impco.

New Power Plant; New Personnel at Standard

H. S. Donald, president of Standard Paper Mfg. Co., Richmond, Va., has announced the completion of a unit in the power plant program for the company's three Richmond mills, and appointment of Robert F. McDonnell, formerly with Tileston & Hollingsworth in Boston, as plant manager.

The increase in supervisory need led to the naming of Mr. McDonnell. He comes not only with experience from Tileston & Hollingsworth, with which his father and grandfather were associated, but also with Irving Tissue Mills in Massachusetts. He is a graduate of the University of Maine.

Harry W. Deffew, with Standard 32 years, is going into semi-retirement although remaining as a vice president and consultant. Mr. Deffew came from England in 1911, and with other experience before Standard, has amassed 47 years in the industry.

Standard's power plant program has resulted in construction and operation of a single power unit to supply the three mills formerly served by two separate plants. The plant is equipped with Combustion-Engineering boilers, rated at 40,000 lbs. of steam per hour, and fed by Hoffman "Firite" stokers. A new Gifford-Wood Co. coal elevator handles fuel from cars to storage.

Policy & Technical Advisory Committees at N. C. State

In an extensive program aimed at establishing a pulp and paper curriculum and providing laboratory equipment equal to that of any major school in the country, North Carolina State College, at Raleigh, N.C., has recently appointed a 10-member policy and a 10-member technical advisory committee to work with the School of Forestry and the Department of Pulp & Paper Technology. First meeting of these committees with Dean Richard J. Preston of the school, and Prof. C. E. Libby, of the department, was held recently, PULP & PAPER learned on a visit to Raleigh.

The two committees are made up entirely from men high in this industry throughout the South, and the industry provided much of the impetus for their organization. Reuben B. Robertson, Sr., chairman of the board, Champion Paper & Fibre Co., was one of those taking the lead in formation of the committees.

The policy advisory committee will advise on questions of financing, type of equipment to be included in the laboratory, and ways of getting it.

The technical advisory committee will advise on the program—such as curriculum, and student employment, summer and permanent. Some questions, such as fellowships, will be discussed with both committees.

In describing plans and objectives of the work at North Carolina State, Prof. Libby told PULP & PAPER they hope to establish "undergraduate training which will equip men for work in the industry and mills as practical operators or quality control technicians." This school, then, will be one of the first on pulp and paper technology to specialize in undergraduate training rather than training at the graduate level.

The course in pulp and paper is provided through the school of forestry and the department of chemical engineering. So that the student is majoring in for-

estry, with a minor in chemical engineering. This is similar to the way the course operates at New York State School of Forestry at Syracuse, with which Prof. Libby was associated many years.

The School of Forestry has moved into the recently-completed Forestry-Horticulture building from its old quarters in Ricks hall. A request has been made to the legislature for funds for space and equipment for the laboratory in a separate building.

The policy committee: Jas. L. Madden, H & W Co.; John L. Riegel, Riegel Paper; Hans Eggers, Continental Can; R. B. Robertson, Sr. and R. B. Robertson, Jr., Champion; F. T. Gottwald, Halifax Paper; Hugh D. Camp, Camp Mfg.; E. J. Gaynor III, Brunswick Pulp; Vertrees Young, Gaylord Container; W. F. Bowld, Buckeye Cotton.

The technical committee: A. P. Yundt, Camp Mfg.; L. R. Growden, The Mead Corp.; J. W. McSwiney, Brunswick; W. F. Gillespie, Gaylord; Ward Harrison, Riegel; Raymond F. Cuyler, H & W; E. H. Graves, Continental Can; H. A. Helder, and A. M. Fairbrother, Champion; K. F. Adams, Halifax Paper.



FORESTRY AND HORTICULTURE BUILDING at North Carolina State was just ready for occupancy at the time of PULP & PAPER's visit. This is new quarters for the School of Forestry, headed by Dean Richard J. Preston, and special department on Pulp & Paper Technology, headed by Prof. C. E. Libby.

SOUTHERN NOTES

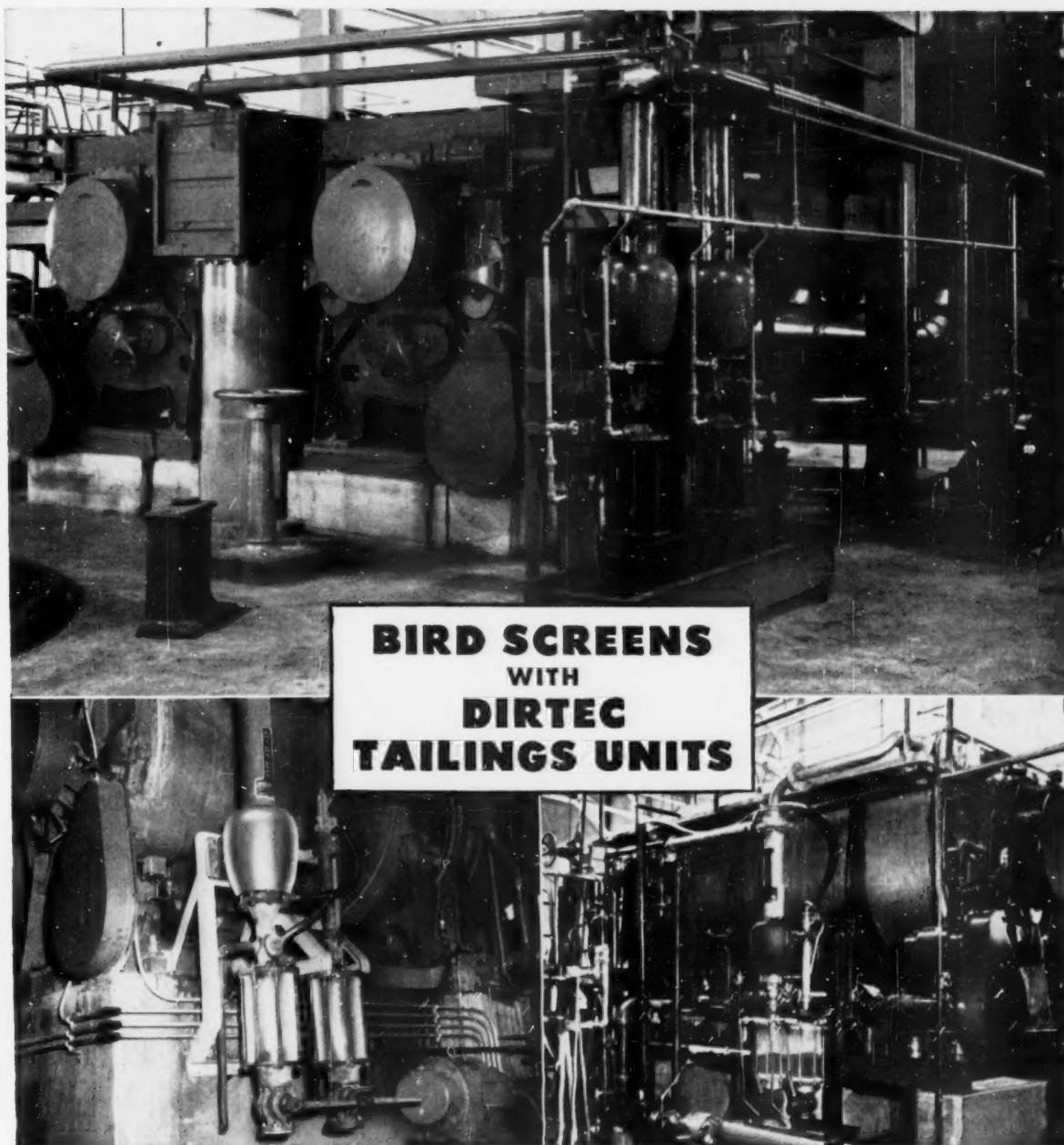
KIRK SUTLIVE, director of public relations for Union Bag & Paper Corp., Savannah, Ga., who met many of the delegates to this industry's engineering conference when held in that city in late '51, has been elected president of the Savannah Chamber of Commerce.

JOHN C. TYLER, who attended Southern Methodist and Texas A. & M., has been promoted to Southern regional manager for Insul-Mastic Corp. of America with headquarters in Houston, Tex. He will travel throughout the South.

MERLIN E. KING is plant engineer at National Container Corp., Big Island, Va.,

having moved there from the company's operations in Michigan. **JOSEPH C. CLARK** is chief chemist at Big Island, and he formerly was with Crossett Paper Mills.

STURE G. OLSSON has assumed the presidency of The Chesapeake Corp. of Virginia, succeeding his father, **ELIS OLSSON**, who is remaining as chairman. The junior Olsson is a graduate of the University of Virginia, served with Sperry Gyroscope and the Navy during World War II, and has been with his company at West Point, Va., since 1946. In 1951 he was elected vice president in charge of manufacturing, and in 1952 became executive vice president and general manager and a member of the board. Other Chesapeake officers include: **W. C. GOULDMAN**, vice president and secretary; **O. D. DENNIS**, vice president and treasurer; and **E. S. GREY**, assistant secretary.



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DIRTEC
TAILINGS UNITS**

The modern and almost universally accepted*
method of assuring *continuous production of uni-
formly good paper at maximum paper machine
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**Better than 90% of
all the paper made
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passes through Bird
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BIRD MACHINE COMPANY
SOUTH WALPOLE • MASSACHUSETTS

HOBERG'S PRIDE IS NEW NO. 1 MACHINE

***At right is typical example
of advertising for its
Charmin line, widely publicized
in magazines, on radio, etc.**

so soft... so very soft



hospital-pure
quickly absorbent
highly soluble
surprisingly thrifty



New and bigger paper machines—even at several millions of dollars a throw—have come along so thick and fast since the war, they have become almost commonplace. But novel and interesting features of a new No. 1 Yankee Fourdrinier machine at Hoberg Paper Mills and its auxiliaries, have set it apart in eyes of many expert observers. And its strikingly impressive machine room also has them talking in superlatives (see cover picture).

Quite a few experienced tissue makers have journeyed to Green Bay, Wis., to see the 178-inch Beloit machine and its Reliance drive and electrical installations. The machine, queen-like, dominates a spacious beige tile-lined room under a concrete slab roof covered with four inches of Owens-Fiberglas. It is the first flat roof in that Lake States area done by Johns-Manville without gravel. The room measures 60 by 170 ft. The basement housing auxiliary equipment is Plastica-



porcelain painted by the Plastica Co. of Chicago in white and gray shades for good light reflectance. The paper machine is light green, also with good light reflectance and safety attributes.

Hoberg's new No. 1 now provides a full lineup of machines from Nos. 1 through 7 for this mill, all designed especially to make the Hoberg sanitary paper grades.

When Joseph M. Conway took over the

SERVES INDUSTRY AND STATE AS WELL AS HIS OWN COMPANY

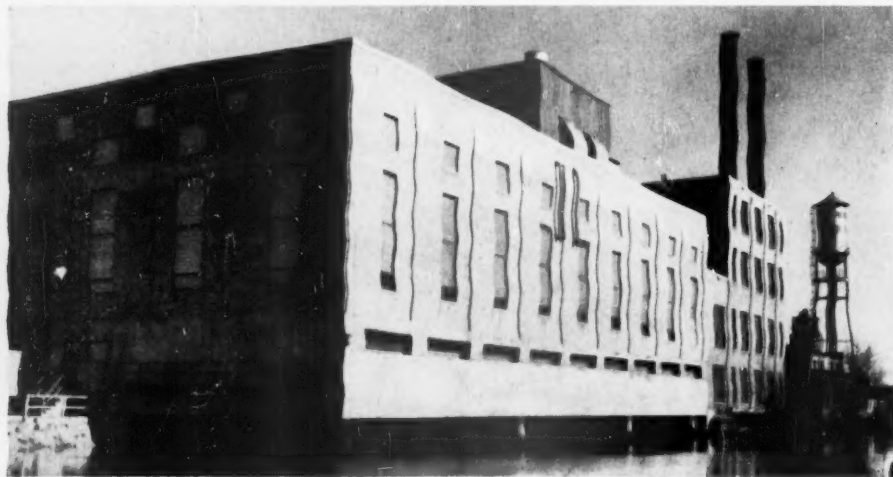
JOE M. CONWAY, President and Gen. Mgr. of Hoberg. His services in behalf of all pulp and paper industries of the Lake States are comparable to his services to his own company. He has headed Sulfite Research League since its inception—leading the long fight which seems now to have won over Wisconsin officialdom and general public to support and understanding of industry's problems. More than to any other single individual, industry duffs hat to Joe Conway for this achievement.

presidency and general managership at Hoberg, years ago, in his capacity as head of a creditors' committee, this mill was making at least 100 distinct grades of paper including towel, newsprint, wrapping, and other grades. From that date—in 1924—it began a long-term program of streamlining and concentrating on sanitary papers. These were its Charmin brand resale papers and Evergreen industrial products, all sanitary grades. One machine after another was rebuilt for the purpose. The 4-digester sulfite pulp mill and groundwood plant were revamped and pointed to this objective. In one department after another, this new goal was the guiding star to the process. The original No. 1 machine taken out of operation about 1933, has now been replaced by this new machine—installed for the same objectives as have consistently guided rebuilding at Hoberg over these years. It is designed especially for dry-crepe tissues. Tissue makers who have seen it call it a finely balanced, superbly equipped machine.

To assure raw material in anticipation of the expansion, the Hoberg Mills became a minority interest in new Irving Pulp & Paper mills at St. Johns, New Brunswick, which now produce 200 tons a day of sulfite and 250 tons of kraft. They have also acquired The Little Rapids Pulp Co. at West DePere, Wis. Hoberg makes 120 tons sulfite and 20 groundwood at its own Green Bay operations.

Here, as in the other tissue and paper industries of Wisconsin, the technical ad-

EXTERIOR VIEW of new addition to Hoberg Paper Mills which houses Machine No. 1—its new Yankee Fourdrinier. In right background is Power Plant. Note heat exchange unit structure above No. 1 Machine Building.



vances that have made possible using more and more aspen, the Lake States' most prolific tree, has also supported this expansion. An installed Allis-Chalmers improved Model D Streambarker and supplementing production by drum barkers, handle about 240 cords a day of 4 to 16 in. wood, now nearly 50% aspen, 50% spruce.

Quite a number of the new ideas on the Hoberg machine and its plant originated with Hoberg men. Most directly concerned with the engineering job were Martin J. Auchter, vice president of manufacturing; Robert E. Kissel, general superintendent; Robert E. Minahan, project engineer, and Winfred "Win" Giese, Division A Paper Mill superintendent.

Credit to Hoberg's staff goes for careful attention given to location of controls for this machine. There is not a single control valve or gauge on the machine—all are on consoles. The consoles are located where each operator can observe results clearly. They, too, decided on the need for uniform nip pressure from start to finish on the winder operation to get a soft roll. And for a novel design of wire pit and water flow and for an efficient mixing well arrangement. And they chose the soft green color for No. 1 machine as most conducive for safe operation, to efficiency and to general good housekeeping.

Beloit engineers participated with the Hoberg engineers and executives in working out these and other features. Ed Younger was Beloit's erection engineer at Hoberg.

This is the first new tissue machine equipped with the Beloit air-cushioned headbox.

The Foxboro indicator on the headbox takes the place of the conventional glass headbox indicator. The slice, rectifier and distributor rolls in headbox are driven by two h.p. Reliance V*S units with Foote



PICTURED ABOVE ARE OFFICIALS OF THE HOBERG PAPER MILLS, GREEN BAY, WIS. (l. to r.) H. G. WINTGENS, Vice-President and Assistant General Manager; MARTIN J. AUCHTER, Vice

President, Manufacturing; JOHN MALONEY, Vice President, Sales; P. M. CHIUMINATTO, Secretary-Treasurer; and ROBERT E. KISSEL, General Superintendent.



MORE OFFICIALS OF HOBERG PAPER MILLS, GREEN BAY, WIS. (l. to r.) ROBERT E. MINAHAN, Project Engineer; WINFRED GIESE, Paper Mill Superintendent, Division A; WALTER

CHRISTENSEN, Sulfito Mill Superintendent; NORMAN RAYMAKER, Paper Mill Superintendent, Division B; and CLYDE FAULKENDER, Technical Director.

Bros. Helical Gear reducers for adjustable speeds.

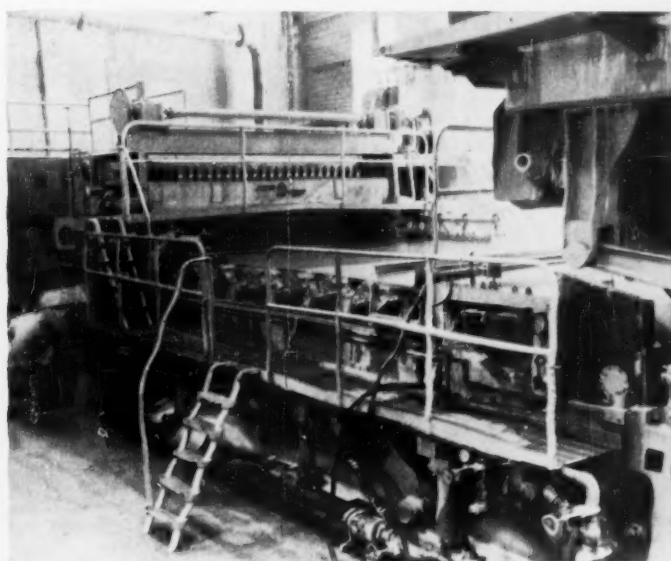
The cantilever type Fourdrinier's air-operated automatic wire guide is Beloit's own design and noteworthy. The wire is 65 ft. in length. All doctors on Fourdrinier are air-diaphragm oscillated.

The press section is conventional for Beloit, with air-operated guides from top to bottom. There are felt and diaphragm loading on top couch, and there are press pressure rolls and wringer rolls, the latter being in the basement instead of on the

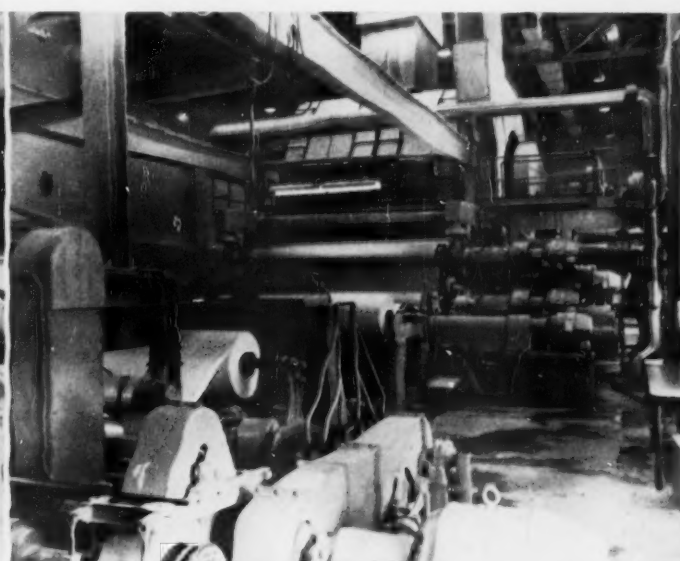
main floor as with most machines.

This is an entirely air-controlled machine, and the separate control bench boards, as previously mentioned, are five in number—on Fourdrinier, press section, Yankee, reel and winder.

While not intentionally planned for any advantage, the machine stock chest is positioned beside the machine wet end, on the same floor as the machine. It is Stebbins-tile tank with Impeco chest agitation and a Poirer consistency control, the fifth in the Hoberg mills. The Poirer con-



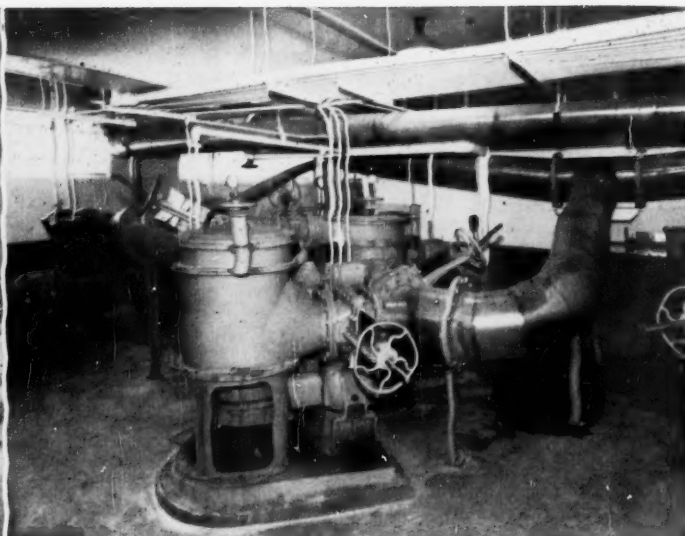
(LEFT) PICTURED AT HOBERG PAPER MILLS, GREEN BAY, WIS. IS PART OF BELOIT'S air-cushioned inlet and 65 ft. long Fourdrinier with BELOIT'S own design air-operated wire guide. This was the first tissue machine to be equipped with this BELOIT inlet.



(RIGHT) DRIVE SIDE OF MACHINE SHOWS 40 HP RELIANCE V*S motor driving Beloit Rewinder (in foreground). Reliance motors (in background) include a 20 hp on reel, three 20 hp motors on breaker, embossing and calender rolls, a 75 hp on pressure rolls and 250 hp on Yankee.



(LEFT) RUEMELIN MFG. CO. DUST COLLECTOR AT HOBERG PAPER MILLS (in background) is raised above floor. Vent over BELOIT winder leads to it. At floor level in background can be seen air cylinder operating tilting table to drop roll to dolly. Operator stands at RELIANCE controls.



(RIGHT) AT HEAD OF HOBERG'S PAPER MACHINE are shown BROWN-HUTCHISON IRON WORKS stainless steel Type 304 pipe from 20 in. to 14 in. diameter leading to headbox. In foreground are SHARTLE Selectifiers and several CRANE valves. At far left is SHARTLE Hydrator with part of casing temporarily removed.

trol is actually both a weight and consistency controller. It measures consistency to a standard and regulates stock to the stuff gate. When it adds water, it also regulates the stuff gate and corrects any irregularity at stock chest as well.

All under close control at the head of the machine are stock chest, a 75 h.p. No. 00 Shartle-Dilts Hydrator and the white water system, effecting a closed system. The Hydrator operates at 1200 rpm. Its drive is a Marathon Electric Corp. No. 00 three-phase motor that can be driven on 220 or 440 volts at 985 or 1180 rpm.

There are two Shartle Selectifiers ahead of the machine and the fan pump is a Goulds 10,000 gpm. pump with 50 ft. head, driven by a 150 h.p. General Electric motor. Considerable stainless steel piping is found here all fabricated by Brown-Hutchinson Iron Works, of Detroit, and all Type 304 stainless steel in

14 to 20 inch diameters.

A Stebbins-tiled wire pit is constructed like a maze in order to get as much air out of the white water as possible and moves the water around an inclined base through partitions until it is dumped to the line going back to the fan pump silo.

The wire is 178-in. by 65 ft. It is a Beloit cantilever-supported type Fourdrinier permitting easy and rapid wire change. There are six dandy rolls and four rubber-covered table rolls. Rubber-covering for machine was mostly by Manhattan. The six inch DeZurik shower pipe strainers are on wire showers, and smaller diameters for couch high pressure showers, hot water showers and press roll showers.

Beloit's open couch roll, instead of grooved couch roll, is a new feature for Hoberg.

The vacuum for both the suction press

roll and the pressure roll is obtained by one Roots-Connorsville type RCV-2 two-stage vacuum pump. This pump, a size 16 x 38 and 14 x 38, is rated 6400 cfm inlet air at 20 inch mercury vacuum when operating at 695 rpm and requiring 244 B.H.P. This unit is direct-connected to a General Electric 250 h.p. 695 rpm squirrel cage induction motor. The pump has low power needs, small sealing water requirement and operates at relatively high speed.

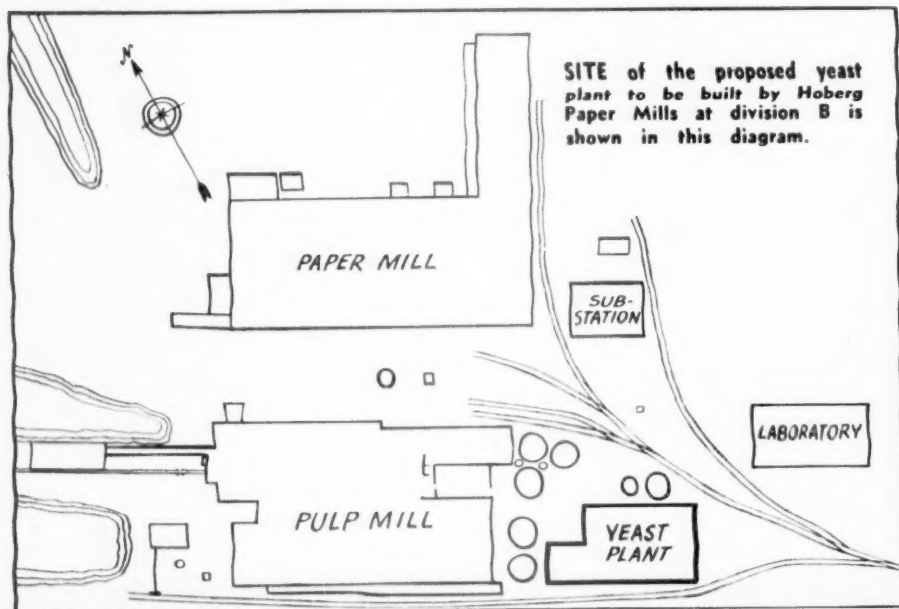
Allis-Chalmers supplied pumps for the Fourdrinier shower, headbox spray and the high pressure shower for couch and press roll. Nash suction pumps which the mill had were installed to serve suction boxes.

The Yankee dryer is 12 ft. diameter. It is driven by a 250 h.p. Reliance shunt-wound forced ventilated 1150 to 1400 rpm. motor through reducer. Hoberg has also what is called a "Sunday drive" on the Yankee, a small drive, to keep the Yankee rolling enough to avoid water accumulation and the minimum of 5 lb. steam pressure to facilitate startups is standard practice.

Ross Engineering Corp. supplied an extensive vapor absorption, heating and ventilating system and the Yankee hood.

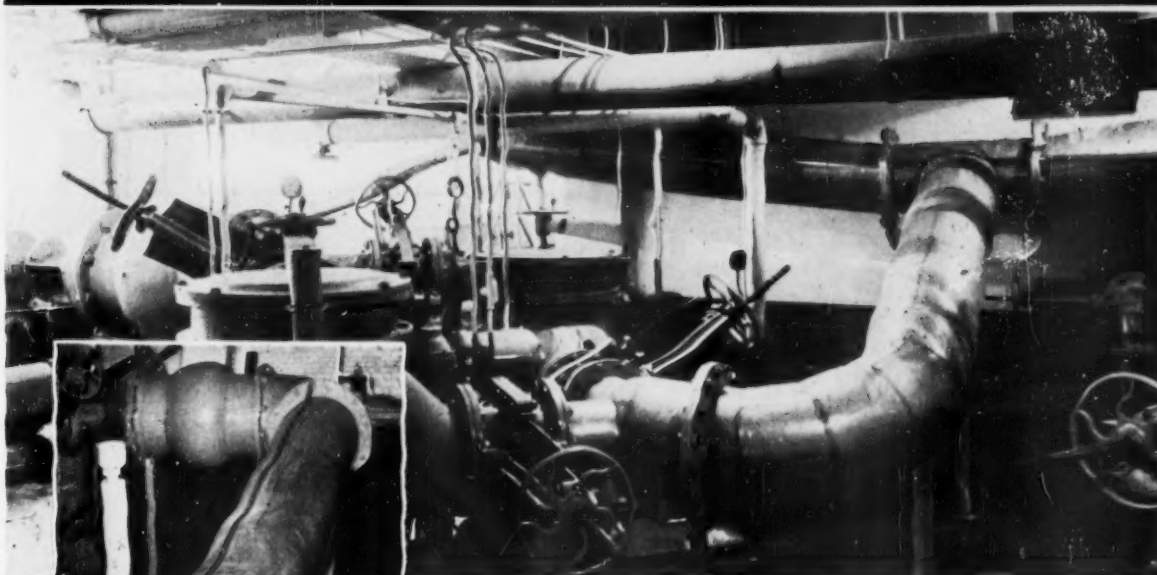
There is a Midwest-Fulton system for circulation on the Yankee and Bowser lubrication for Yankee and calenders.

A feature of the Beloit calender rolls is that they are located in a horizontal



HOBERG PAPER MILLS has embarked on a new \$2,500,000 program for a sulfite waste liquor yeast plant (two-story 75 x 150 ft.). Starting up in 1954, it will make 4,500 tons of yeast annually. It involves new liquor collection system, blow pit changes and a 6 1/2 ft. sq. tunnel, 3,750 ft. long from Division A, for transmitting steam by pipes to operate the yeast plant. Other Hoberg improvements coming: Heat exchangers and forced circulation to boost pulp production from 120 to 135 tons a day; new water treatment plant; added screens, chip storage and larger Kamyr mould and vat.

BROWN-HUTCHINSON PREFABRICATED STAINLESS *at HOBERG PAPER MILLS*



The above photograph shows BROWN-HUTCHINSON stainless steel fabricated piping ahead of the Hoberg machine at Green Bay, Wis. This is Type 304 Stainless Steel in varying diameters from 20 to 14 inches leading from Selectifiers at left to headbox of new No. 1 Machine in background.



Picture above shows Brown-Hutchinson stainless steel fabricated pipe to the big fan pump serving the new paper machine at Hoberg Paper Mills.

BROWN-HUTCHINSON Will Engineer and Fabricate

- Alloy Pipe and Fittings
- Headboxes
- Steel Troughing
- Winder Shafts
- Pressure Vessels

Tanks (steel, alloy, lead or rubber-lined)
and

MISCELLANEOUS FABRICATION OF ALL KINDS

MONEL - STAINLESS — OTHER ALLOYS



BROWN-HUTCHINSON

IRON WORKS, INC.

1831 Clay at G. T. R. R.

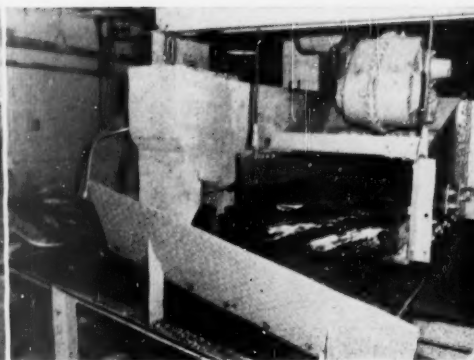
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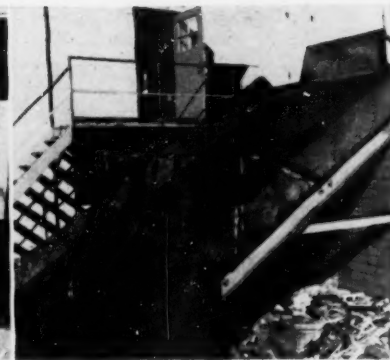
★ B-H invites you to request its assistance for all your requirements for prefabricated alloy work. Ray Shillum, B-H's Metallurgist in charge of Engineering and Sales will be glad to cooperate from our Detroit headquarters or on your plant grounds, as desired.



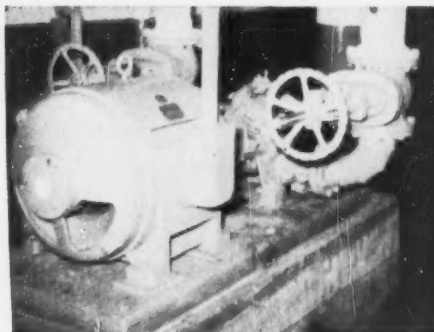
(LEFT) ALLIS CHALMERS IMPROVED MODEL D STREAMBARKER AT HOBERG. Logs enter at left. Improved baffle suspension eliminated causes for jamming inside.



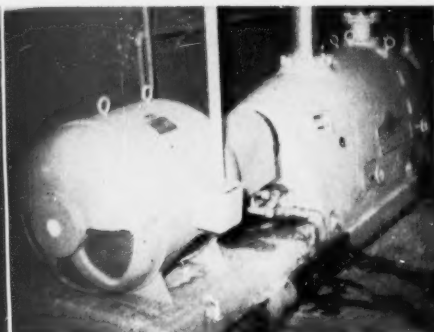
(MIDDLE) ALLIS CHALMERS LOW-HEAD VIBRATING SCREEN AT HOBERG PAPER MILLS is in barker building directly below barker.



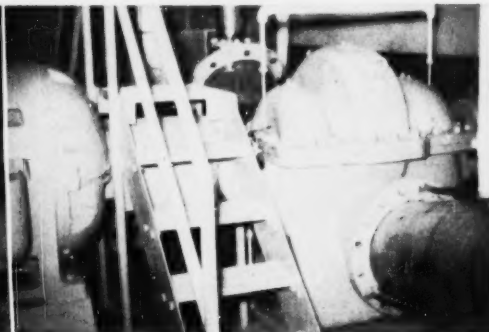
(RIGHT) PICTURED HERE IS RAMP DISCHARGE for barked wood outside barking plant at Hoberg Paper Mills. A barked log is sliding down incline.



ALLIS CHALMERS 100 HP 3550 RPM INDUCTION MOTOR and couch roll shower pump are shown at Hoberg below new machine.



(MIDDLE) MARATHON ELECTRIC, 3-PHASE, 75 HP MOTOR connected to SHARTLE HYDRATINER #00 at Hoberg Mills new addition.



(RIGHT) 150 HP. GENERAL ELECTRIC induction motor serving GOULDS fan pump at Hoberg Paper Mills.

relationship, so the nips are vertical, rather than horizontal as in the conventional installation. This is to facilitate threading of the sheet.

Another feature of the Beloit machine is unusual—a rope carrier takes the sheet from creping doctor to reel. There is a top skinning doctor, a creping doctor and a bottom cleaning doctor. The three Beloit doctors are oscillating and loaded on top breaker roll, center embossing roll and bottom calender, all of 20 inch diameter.

An interesting distinction of the new machine is the new type Beloit air-load-

ing reel with uniform nip pressure from start to finish of reeling. As mentioned previously, this was designed to get a soft roll.

The rewinder is by Beloit. Four Hanna air cylinders are on felt take-ups on tape driven unwind stands. The winder drive is a 40 h.p. Reliance V*S single motor, variable speed drive providing a maximum speed of 4000 fpm. The rewinder is controlled from a benchboard which mounts air control as well as electrical control. Slitter knives have individual motor drives and are electrically inter-

locked for tandem operation with the main drive.

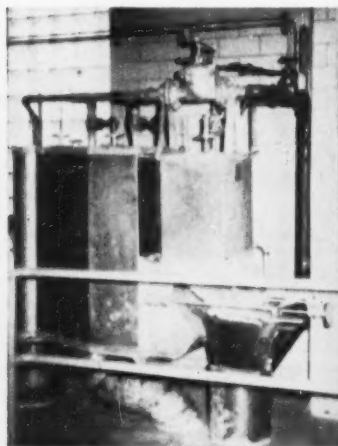
The electrical gallery, off from the main basement area in a totally-enclosed, air-conditioned room, houses a 600 h.p. Reliance synchronous motor generator set, Reliance control panels and electronic regulators for machine drive, rewinder power and control unit, and a control center for the machines' A-c. auxiliary drives.

The Reliance drive for the machine is composed of wet and dry end sections. A 400 kw. variable voltage generator supplies power for three 75 h.p., 1150/1600 rpm. D-c. for couch, press and pressure roll, a 40 h.p. D-c. wringer roll motor, a 250 h.p. motor and A-c. "Sunday drive" gearmotor. A Reliance VSR electronic speed regulator provides precise machine regulation.

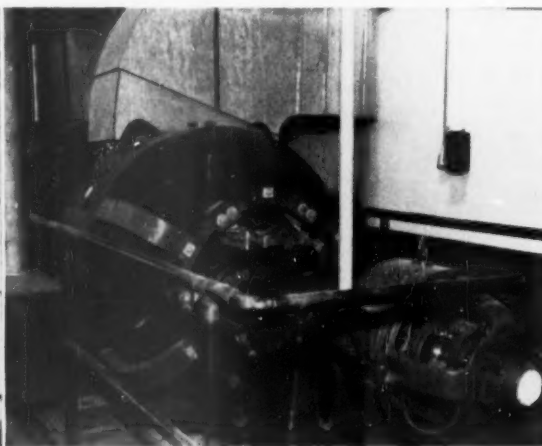
A 75 kw. generator supplies power for the dry end's three 20 h.p., 1150/1750 rpm. D-c. motors for breaker, embossing and calender rolls and a 20 h.p. reel motor. This equipment is regulated to the Yankee speed with machine range of 800/2000 fpm.

For the reel, there is a Link-Belt worm gear drive. A Change Type W fan provides air-cooling for all forced ventilated DC drives.

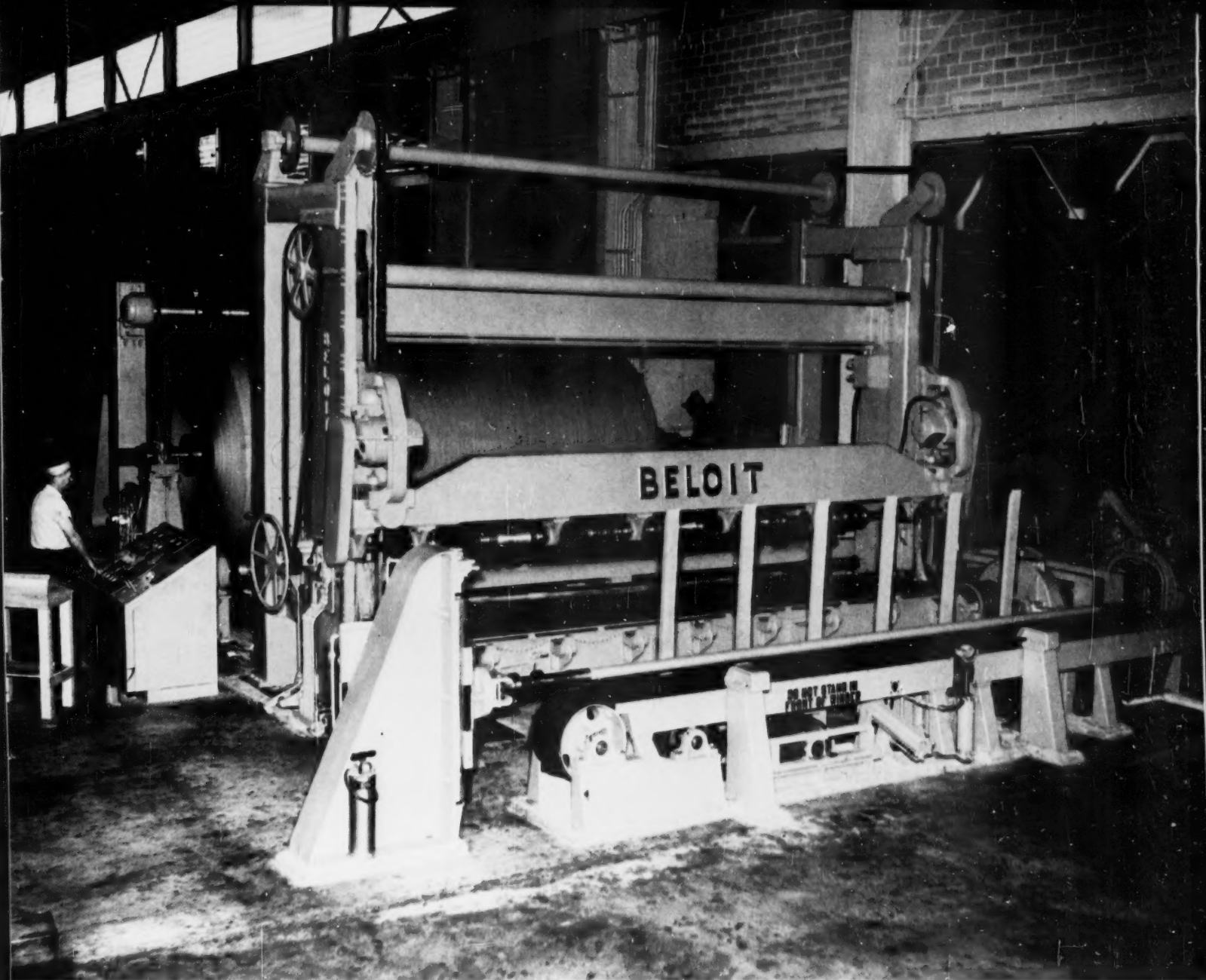
Mason-Neilan steam controls are provided. There are the following panel boards in machine room: The Mason-Neilan board for steam controls, pressure and temperature. Then the Reliance board for the main drive controls. Then another Mason-Neilan bank, two parts



(LEFT) PHOTOGRAPHED BY PULP & PAPER AT HOBERG PAPER MILLS, GREEN BAY, WIS. is this POIRER consistency controller, part of equipment serving Hoberg's new No. 1 (178 in.) Yankee Fourdrinier Paper Machine.



(RIGHT) AT HOBERG IS THIS RELIANCE MOTOR GENERATOR SET for paper machine. Vent is at top center. In middle is RELIANCE synchronous 580 hp motor which drives RELIANCE wet end generator and dry end generator and exciter.



Crossett Paper Mills, Crossett, Ark.

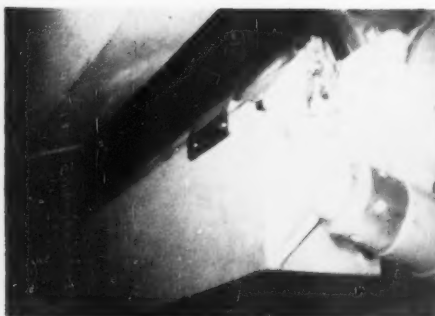


INTEGRATED OPERATION by this Beloit Winder makes hundreds of sets of counter rolls from 88-inch parent rolls during an eight-hour shift. From the driven unwind stand to the efficient roll-handling equipment, every detail has been designed for high-speed production. A pre-set cycle of winder operation, started by a "run" pushbutton, automatically completes rolls of the desired size.—*Beloit Iron Works, Beloit, Wisconsin.*

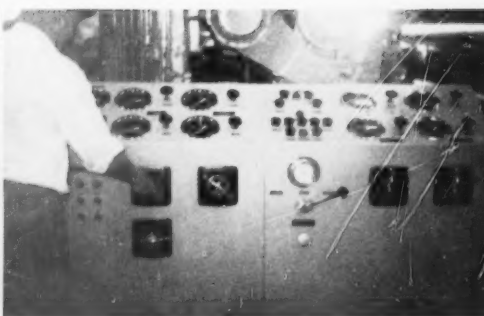
BELOIT

WHEN YOU BUY BELOIT...YOU BUY MORE THAN A MACHINE!

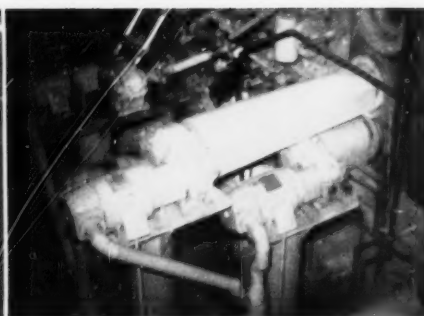
PAPER MACHINERY



(LEFT) ADJUSTABLE CREPING DOCTOR HOLDER BY BELOIT shown here on Hoberg Paper Mills' new machine.



(MIDDLE) MAIN YANKEE console with electric controls for starting and stopping machine and for embossing breaker and calender rolls. RELIANCE speed controls are small buttons in the middle.



(RIGHT) RELIANCE 2 HP MOTORS, and FOOTE BROS. Helical Gear reducers slice, rectifier and distributor headbox rolls for new Hoberg machine.

for the Ross system controls and one for press recorders showing pressures. There are three smaller panels. One is for the Shartle Selectifiers. Another a Reliance panel for headbox rectifier controls. The third is for pumps and motors on the machine.

At the dry end of the machine, on a stand high up near the machine room end wall is a large dust-collecting system provided by Ruemelin Mfg. Co. of Milwaukee. This collects and completely suppresses all fine lint from the slitter. This is a new application of the cloth filter in the paper industry.

There is one P & H 20-ton bridge crane and a small three-ton Shephard & Niles for lifting rolls from reel to unwind stand.

The room, as reported, is impressive. Plastica paint—a porcelain type finish—is on all concrete, transite and iron piping. There is a color system for steam, water and air pipe identification. The paint is resistant to peeling. It has an Arco undercoat.

A Shartle Bros. broke pulper located in the basement takes trim from the Yankee and winder, re-pulps it, and the stock is

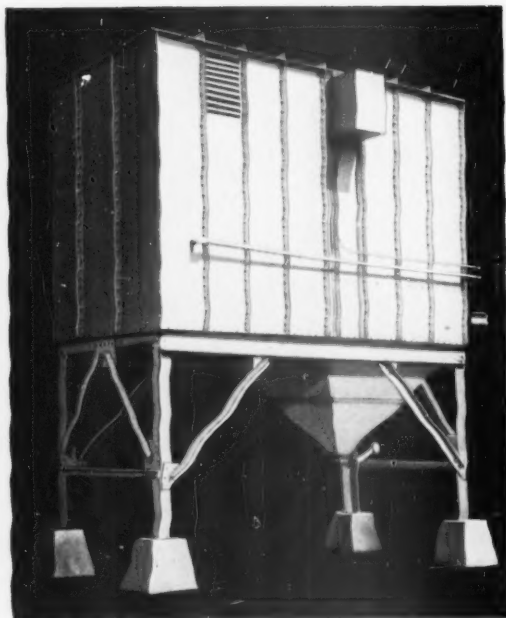
returned to the machine chest at a continuous low rate.

PERSONNEL

In an event of this importance at Hoberg, some comments on mill personnel involved is in order.

When Joseph M. Conway, the president, took over management in 1924, his background had been the lumber business in Saginaw, Mich. He was born at Seney, near Manistique, Mich., now site of a paper mill, on the Northern peninsula, and

RUEMELIN TUBULAR TYPE DUST FILTER (Patd.)



HOBBERG PAPER MILLS selected the Ruemelin Bag Type Dust Filter for its new, modern mill. This unit assures clean air in the re-wind room, and eliminates dust outside the plant. This collector, attached to the tissue re-wind and slitter, helps pay for itself. Note the following advantages:—

- Highest filter efficiency—99.8%.
- Purified air discharge back to work room, saving over 30,000 Cubic Feet of heated air per minute.
- All collected dust discharged to beaters or waste.
- Permanent type filter elements, thoroughly and automatically cleaned, assure sustained efficiency.

Paper mills with lint or shredded dust problems will secure operating benefits that are worth investigating. Write for the Ruemelin Dust Filter Bulletin 24-D.

RUEMELIN MFG. CO.

3846 N. Palmer St.
Milwaukee 12, Wis.

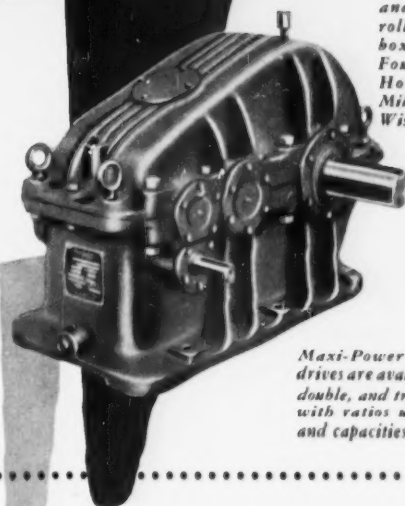


IT TAKES MUSCLE TO MAKE PAPER

Maxi-Power enclosed helical gear drives installed on the slice rectifier and distributor rolls in the head box of the new Fourdrinier at Hoberg Paper Mills, Green Bay, Wisconsin.

Tough little drives—these Maxi-Power units installed on the slice rectifier and distributor rolls in the head box of the new Fourdrinier at the Hoberg Paper Mills. These Maxi-Power units are at work day in and day out, performing their job efficiently, quietly, economically. Rugged in design, with precision generated helical gears, they are built for continuous service with minimum maintenance.

In the Foote Bros. line of enclosed gear drives, you will find a wide variety of sizes and types to meet any industrial service.



Maxi-Power helical gear drives are available in single, double, and triple reductions with ratios up to 360 to 1 and capacities up to 1550 h.p.

FOOTE BROS.

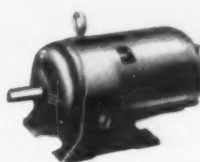
Better Power Transmission Through Better Gears



**Hygrade
Drives**



**Line-O-Power
Drives**



**Foote Bros.-Louis
Allis Gearmotors**

Foote Bros. Gear and Machine Corporation, Dept. PP
4945 S. Western Boulevard
Chicago, Illinois

Please send me the following bulletin.

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| <input type="checkbox"/> MPB Maxi-Power Drives | <input type="checkbox"/> LPB Line-O-Power Drives |
| <input type="checkbox"/> HGB Hygrade Drives | <input type="checkbox"/> GMA Foote Bros.-Louis Allis Gearmotors |

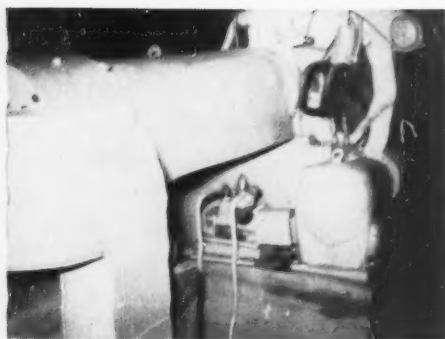
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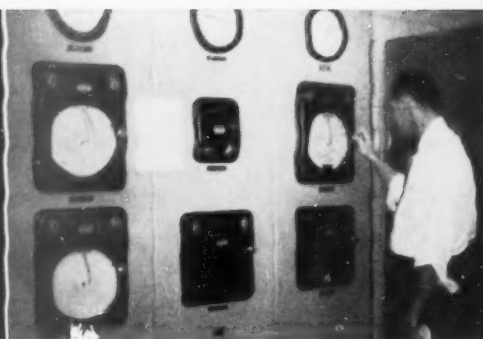
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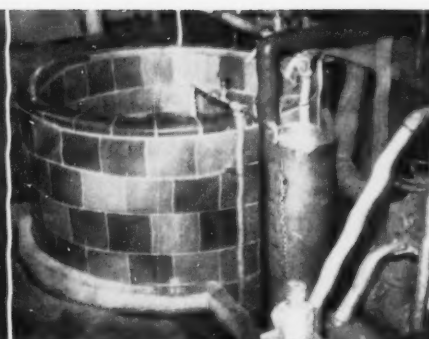
City.....Zone.....State.....



(LEFT) SHOWN AT HOBERG IS THIS LINK-BELT worm gear drive on the reel and air duct to RELIANCE motor on reel.



(MIDDLE) PHOTOGRAPHED BY PULP & PAPER AT HOBERG PAPER MILLS at Green Bay, Wis., are these MASON-NEILAN recording devices.



(RIGHT) STEBBINS ENGINEERING DID TILE WORK ON FAN PUMP SILO shown here at the Hoberg Paper Mills.

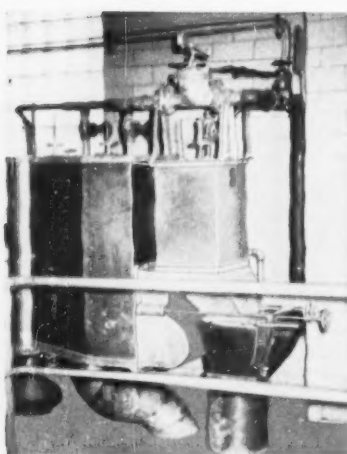


Photo at left shows one of five Poirier Dual Controls installed at Hoberg Paper Mill, Green Bay, Wisconsin.

HOW TO CONTROL Volume - Consistency - Sheet Weight

Install a Poirier Dual Control with its 7 separate and distinct controlling actions that make regulation of both stock volume and consistency a "snap."

Not only is stock weight controlled to within 2% or $\frac{1}{10}$ of 1% basis weight, but volume is also regulated, even when stock becomes too light to be controlled by consistency.

To you this means more uniform machine conditions, better paper and lower costs.

Because of its many benefits, Poirier's Dual Control is used by leading concerns throughout the pulp and paper industry. It will help you, too!

Save time—save money—improve quality. Let one of our engineers make a study of your operation and indicate the specific advantages of a Poirier Dual Control. No cost—no obligation.

Write for full information.

POIRIER CONTROL COMPANY
Waterville • • • Maine

Specialists in Stock Control Equipment

followed his father's footsteps in the sawmilling field.

Henry G. Wintgens, vice president and assistant general manager at Hoberg, is a native of Green Bay, where he has lived all his life. He has been with Hoberg for 38 years.

John Maloney, vice president in charge of sales, is another Green Bay native son. He has been with Hoberg for 28 years and during the past year was away in Washington, D. C., for awhile as key official in the NPA, latterly as director of its pulp and paper and paperboard division.

Martin J. Auchter, vice president in charge of manufacturing, was born in Milwaukee, graduated from Marquette University and was former chief engineer and assistant superintendent. He has been with Hoberg 20 years.

Robert E. Kissel, general superintendent, was born in Hartford, Wis., and his family name is well known in the automobile industry which others followed, but his career has been in paper. Graduate of University of Pennsylvania, he has been with Hoberg 20 years, except for a brief period when he moved to Hudson-Sharp Co. in Green Bay, returning to Hoberg after World War II.

Winfred "Win" Giese, superintendent of Division A, where the new machine is located, has five of seven machines under his charge. Born in Green Bay, he has worked 26 years at Hoberg—his entire career of working.

Robert E. Minahan, chief engineer since 1946, was recently made project engineer, at his own request. He graduated from the University of Wisconsin in 1935 and has been at Hoberg nearly 16 years. He, too, was born in Green Bay.

Others, though not as actively involved in the addition of No. 1 machine, are P. M. Chiuminatto, secretary-treasurer and office manager; W. C. Christensen, pulp mill superintendent; N. Raymaker, superintendent of Division B; H. F. Bins, purchasing agent; C. R. Faulkender, technical and research director; F. Haselow, power plant superintendent; Norbert Freward, master mechanic; B. J. McClosky, personnel manager, and L. J. Dobry, traffic manager. (More Hoberg pictures on page 103).

Young Ladies Guide Allis-Chalmers Visitors

Four attractive young ladies—receptionist guides—now escort visitors to the person they desire to see at West Allis, Wis., Works of Allis-Chalmers. They have been given a special training course to familiarize them with Allis-Chalmers so that no time is lost by visitors reaching the people with whom they have business.

Gilbert Paper Co. Movie

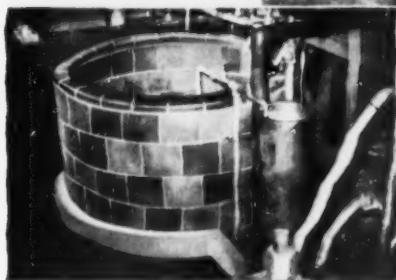
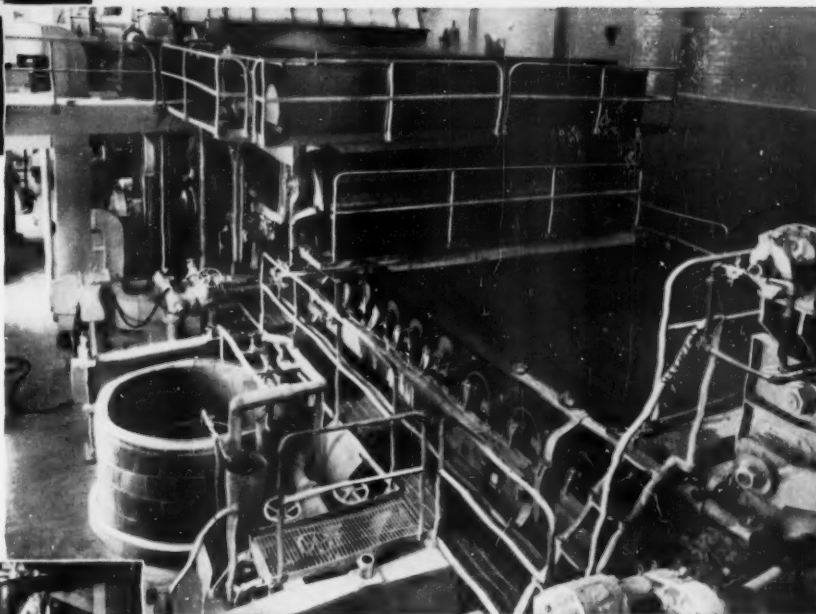
For showing at group meetings, a new black and white sound movie, "The Paper Made for You" is available without charge from Gilbert Paper Co., Menasha, Wis. It is a 23-minute movie showing not only manufacturing operations but also end uses in printing plants, etc. A 2-color, 16-page booklet on paper is also available without charge to distribute to audiences.



**Another Milestone in the
Art of Paper Making . . .**

Hoberg's New No. 1 (178") Yankee Fourdrinier Machine

Hoberg's new No. 1 machine. Stebbins SEMTILE Fan Pump Silo is shown in the left foreground (and in illustration below). The Wire Pit and Couch Pit are lined with Stebbins SEM-PLATE. The SEMTILE Machine Chest is at the wet end of the machine.



Almost invariably, when you see a fine piece of modern paper-making equipment, like the new tissue machine at the Hoberg Paper Mills, Green Bay, Wisc., you will find Stebbins corrosion-resistant tanks and linings contributing to the quality of the product and to the profitable operation of the plant.

It will pay you to get the Stebbins man's recommendations whenever you need linings or tanks to resist acid or alkali conditions.

SINCE 1884
Specialists in
Design
Installation
and Servicing
of Linings and
Tile Tanks

STEBBINS

Engineering and Manufacturing Company, Watertown, N. Y.

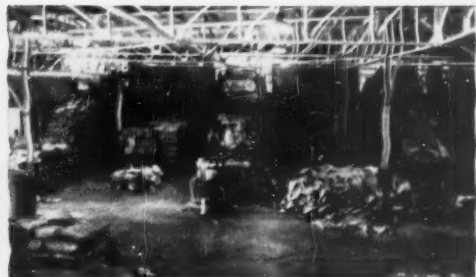
STEBBINS ENGINEERING CORP. — TEXTILE TOWER, SEATTLE, WASH.

CANADIAN STEBBINS ENGR. & MFG. CO., LTD. — CASTLE BLDG., MONTREAL, CANADA



CERTAIN-TEED STARTS UP SOUTHWEST OPERATION

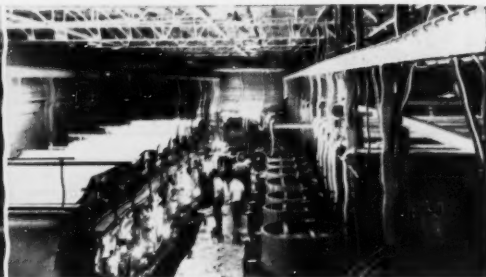
OKLAHOMA PAPERBOARD MILL



(LEFT) WASTE PAPER AT CERTAIN-TEED MILL is moved from storage to mezzanine with three 72-inch wide 50 foot long conveyors with belts, gears and chains by LINK BELT CO.



(MIDDLE) CERTAIN-TEED PRODUCTS MILL AT PRYOR, OKLA. is 160 feet wide by 500 feet long. Lower part is brick with upper part of corrugated asbestos.



(RIGHT) VIEW OF 7-VAT DOWNINGTOWN LINER BOARD MACHINE (100 tons daily) at the new mill in Pryor, Oklahoma recently built by the Certain-teed Products Co.

Oklahoma's first paper mills—both new in the past year—have now been visited and described by PULP & PAPER's Southern editor. Story of National Gypsum's mill in June 1952 issue, page 64.

Certain-teed Products Corp., nationally known manufacturers and distributors of building material products started production in late July 1952 at its ultra-modern 100-ton per day liner board mill at Pryor, Okla. Located on Pryor Creek, the 30-acre site is adjacent to the old World War II Oklahoma Ordnance Works and is served with steam, water and electricity by the Chateau Power Plant of Grand River Dam Authority.

The mill is an integrated part of the company's general program of advancement, and was programmed to serve plants located between the Mississippi and the Rockies. It utilizes waste paper and some percentage of new woodpulp.

The mill is compacted into a 500 by 190 foot structure without basement. The north end, accommodating pulp preparation and machine wet end, is equipped with mezzanine floor. The machine room extends the length of the east side while on the south and west portion a space 380 by 140 feet is devoted to storage and handling of both new product and waste paper. The building is of structural steel

frame, sprinklered, with lower wall portions of the 40 foot distance to eaves of brick, and the upper sections corrugated asbestos. Certain-teed built up roofing tops the structure.

The main floor, entirely of concrete, is railroad car door height. Switch tracks and unloading docks for motor trucks are provided, as also a 200 by 500 foot concrete outdoors storage space for waste paper. Insulation for building and all piping is with Owens-Corning "Fiberglas."

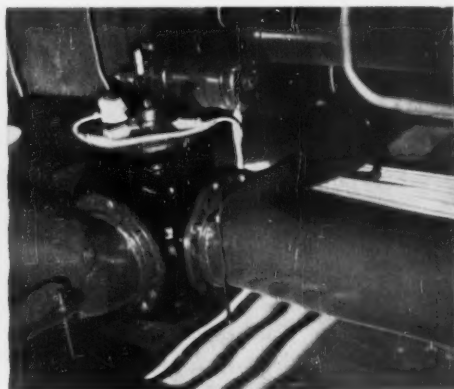
Waste paper is moved from storage to the mezzanine level with three Korb-Petit 72-inch wide 50 foot long inclined conveyors driven by mesh web belts with gears and chains furnished by Link Belt. Each conveyor leads to a Downingtown pulper, two of 10 foot diameters for top and bottom liner paper and the third of 12-foot diameter for filler stock. All three have cloverleaf cross sections. Three separate grades of stock may be produced. The filler stock pulper is equipped with junker and ragger to remove trash. Defibered stock is continuously delivered through 1/4-inch perforation side plates; liner stock in batches through 1-inch perforation bottom plates. Each of the three systems has a Downingtown Fibrefiner (developed from the Weiner type) driven by an 150 HP 1750 RPM Westinghouse

induction motor.

The filler stock is delivered at 1 1/2-percent consistency to two refiners, two cleaners and three 10-inch Vortraps, then to two Sandy Hill deckers. Arrangement of piping permits by-passing of Vortraps or refiners and cleaners to refiner chest and through one Fibrefiner. The filler stock is sent next through two Downingtown beaters. These have tubs measuring 40-feet long, 4-feet deep, with 60-inch channels. Each is driven by a 200 HP 504 RPM Westinghouse induction motor through a 16-V-belt drive. Each beater has a capacity of 3000 lbs. of stock at 4-percent consistency. Stock is then pumped to the jordan chest.

Stock preparation equipment includes five Emerson (Bolton) 1-B jordans. Consistency is regulated by three Brammer units located ahead of jordans and machine chests. Each of four machine chests has a capacity of 5000 lbs. at 4-percent consistency.

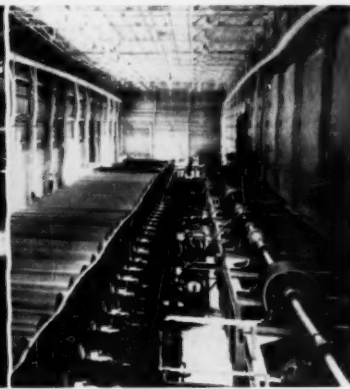
All chests are of concrete, with mid-feather and adjustable propeller agitation, power for which is furnished by 15-HP Westinghouse motors with their 1750 RPM reduced to 100 RPM by gears. Before entering the machine chest each type of stock is sent through one or more jordans, a flexible arrangement permitting



(LEFT) STOCK LINES AT CERTAIN-TEED PRODUCTS are equipped with SHARTLE BROS. remote control valves. This photo provides good look at a 3-way valve controlled by push button some distance away.



(MIDDLE) ONE OF SEVEN SANDY HILL 14-PLATE flat screen installations at Certain-teed Oklahoma plant. At right the black box is RELIANCE ENGINEERING V*S white water control.



(RIGHT) SHOWING DRIVE ON NEW DOWNINGTOWN paper machine dryer section at Certain-teed Products, Pryor, Okla. plant as seen from the back view of liner board machine.



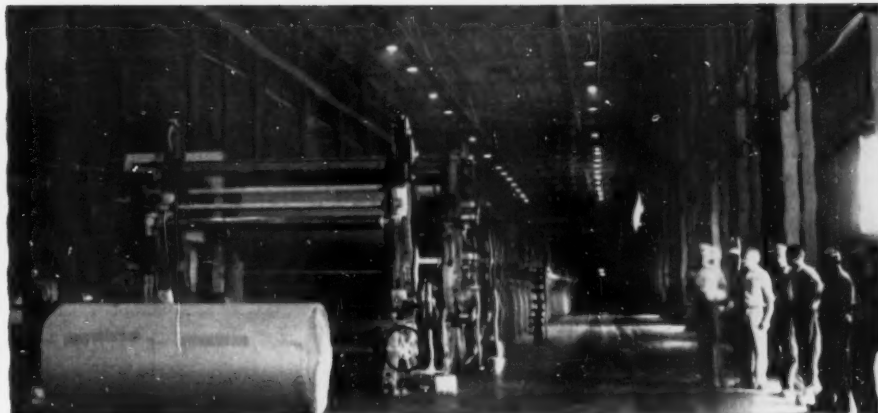
CERTAIN-TEED PRODUCTS MILL executives at Pryor, Oklahoma are (l. to r.) **J. W. HART**, Mill Manager; **W. H. YOUNG**, Superintendent; and **JAMES H. BURKHART**, Plant Engineer.

wide variation in treatment.

All equipment is subject to Westinghouse control panels grouped for visibility, with off-on signals for visual inspection. All principal stock lines are equipped with Shartle Bros. remote control valves. Industrial color coding is followed for piping identification.

An 8 x 10 foot Oliver United vacuum filter is used in the stock preparation room as a saveall to recover fiber from the white water. This is driven by a 7½ HP Reliance DC-VS motor through a Cleveland reduction gear. A Reliance 5-KWVG set panel provides direct current and speed regulation for handling the saveall water. Recovered fiber is returned to the filler stock system.

Stock from the machine chests is pumped to the Brammer regulator boxes where it is diluted with white water to 1 percent consistency before reaching



STAFF AT CERTAIN-TEED PRODUCTS PLANT AT PRYOR, OKLA. watch the 7-cylinder paper machine in action. This is a rebuilt unit provided

seven 14-plate Sandy Hill Packer flat screens, there being one screen for each paper machine cylinder. Stock flows by gravity to screens from a 3-stock, 7-vat stainless steel headbox. From each screen, the stock is sent to a mixing box where white water is used for dilution to 2/10 percent consistency. The mixing boxes are oval shaped, 5 x 7 feet, and of stainless steel. The seven vats are counterflow, each with a 36-inch diameter cylinder. Molds are 36 x 124 inch face.

Explains Machine Features

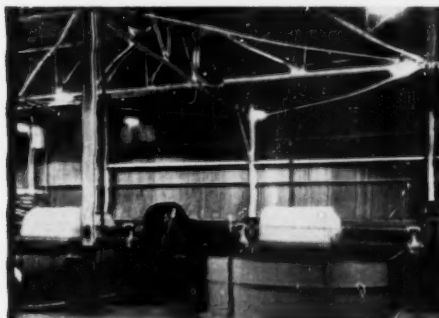
As explained by James S. Thornton, assistant chief engineer in charge of development for Downingtown, long approach

by **DOWNINGTOWN MFG. CO.**, this being a view from the dry end. Cameron Machine Co. rewinder with Horton variable speed clutch is in foreground.

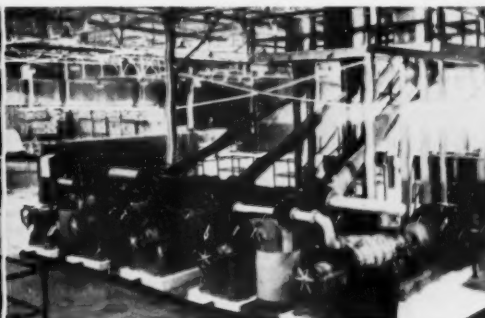
flow stock inlet hoppers carrying stock are designed to gradually spread stock from a 16-in. pipe to the full width of the first vat pass.

"Screen, mix box and vat making-board levels were carefully engineered to insure even flow, with a minimum of entrapped air," said Mr. Thornton.

The 7-cylinder paper machine is a rebuilt installation furnished by Downingtown Manufacturing Co. A Westinghouse 300-HP motor drives it through a line shaft with pulleys and flat slip belts. The drive motor is connected to the Downingtown drive shaft with V-belts, with reduction gears. Current for the drive is furnished by a 380-HP Westinghouse m.g.



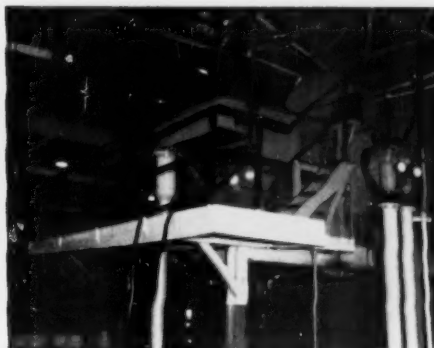
(LEFT) TWO **DOWNINGTOWN 3000 LB. BEATERS** AT CERTAIN-TEED PRYOR installation. These have tubs measuring 40 feet long by 4-feet deep, with 65-inch channels. Each is driven by a 200 HP motor.



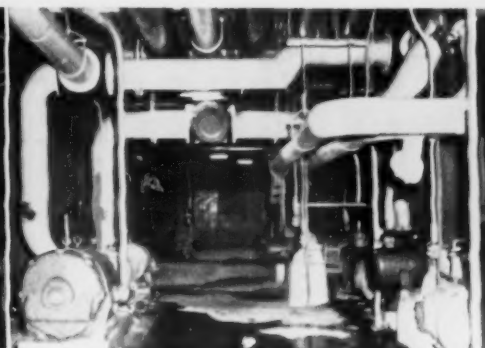
(MIDDLE) **ESSENTIAL FUNCTION IN STOCK PREPARATION** AT Certain-teed Plant at Pryor, Okla. is performed by this installation of five **EMERSON 1-b Jordans**.



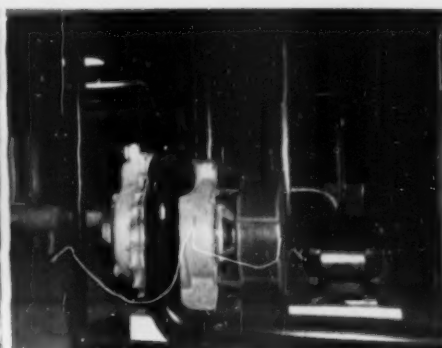
(RIGHT) **DOWNINGTOWN PULPERS** AT CERTAIN-TEED MILL. **DOWNINGTOWN** furnished one 4-c continuous Fibrepulper for filler stock rated at 125 tons per hour and two 3-B Fibrepulpers at 1500 lbs. per batch at 6% or 54 tons per day for each.



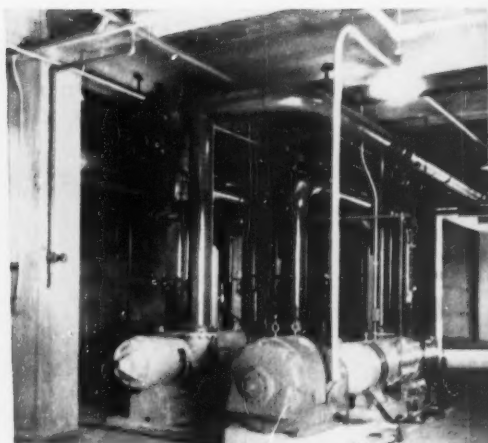
(LEFT) **8 x 10 OLIVER-UNITED VACUUM FILTER** is used as saveall in stock preparation room in Certain-teed mill. Fibers recovered from white water go back into filler stock system.



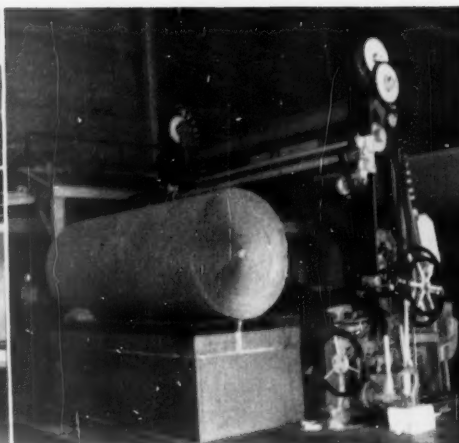
(MIDDLE) **CHESTS AT CERTAIN-TEED PRODUCTS MILL** are to both right and left in this picture. At left, **DOWNINGTOWN FIBREFINER** and at right pumps and agitators serving dump chest.



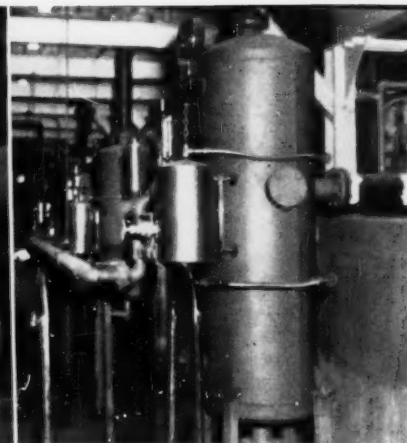
(RIGHT) **NASH ENGINEERING CO. HYTOR L-6 PUMP** at Certain-teed Products, Pryor, Okla. driven by 60 HP Westinghouse induction motor.



(LEFT) TWO DOWNINGTOWN FIBREFINERS at the Certain-teed Products mill at Pryor, Oklahoma, pictured above are driven at 1750 RPM by directly connected 150 HP motors. The fibrefiners are of 12-inch diameter.



(MIDDLE) CERTAIN-TEED PRODUCTS MACHINE, PRYOR, OKLA. is followed by CAMERON winder with HORTON variable speed clutch and ROTARY LIFT hydraulic elevator table that lowers rolls to floor.



(RIGHT) THIS MIDWEST-FULTON CONDENSATE DRAIN SYSTEM for the paper machine's dryers is pictured in use at Certain-teed Products, Pryor, Okla., mill.

set.

The machine has two extractor rolls, one suction and one plain. It has four primary presses, followed by a suction press and three plain presses. The bottom felt is 160 to 172 feet long; the top, 171 to 181 feet. The sheet travels through four dryer rolls in a single vertical stack, thence through 89 dryer rolls arranged

two high and extending along the main floor.

The rolls are 124-inch face, 36-inch diameter and equipped with sleeve bearings and Johnson steam joints.

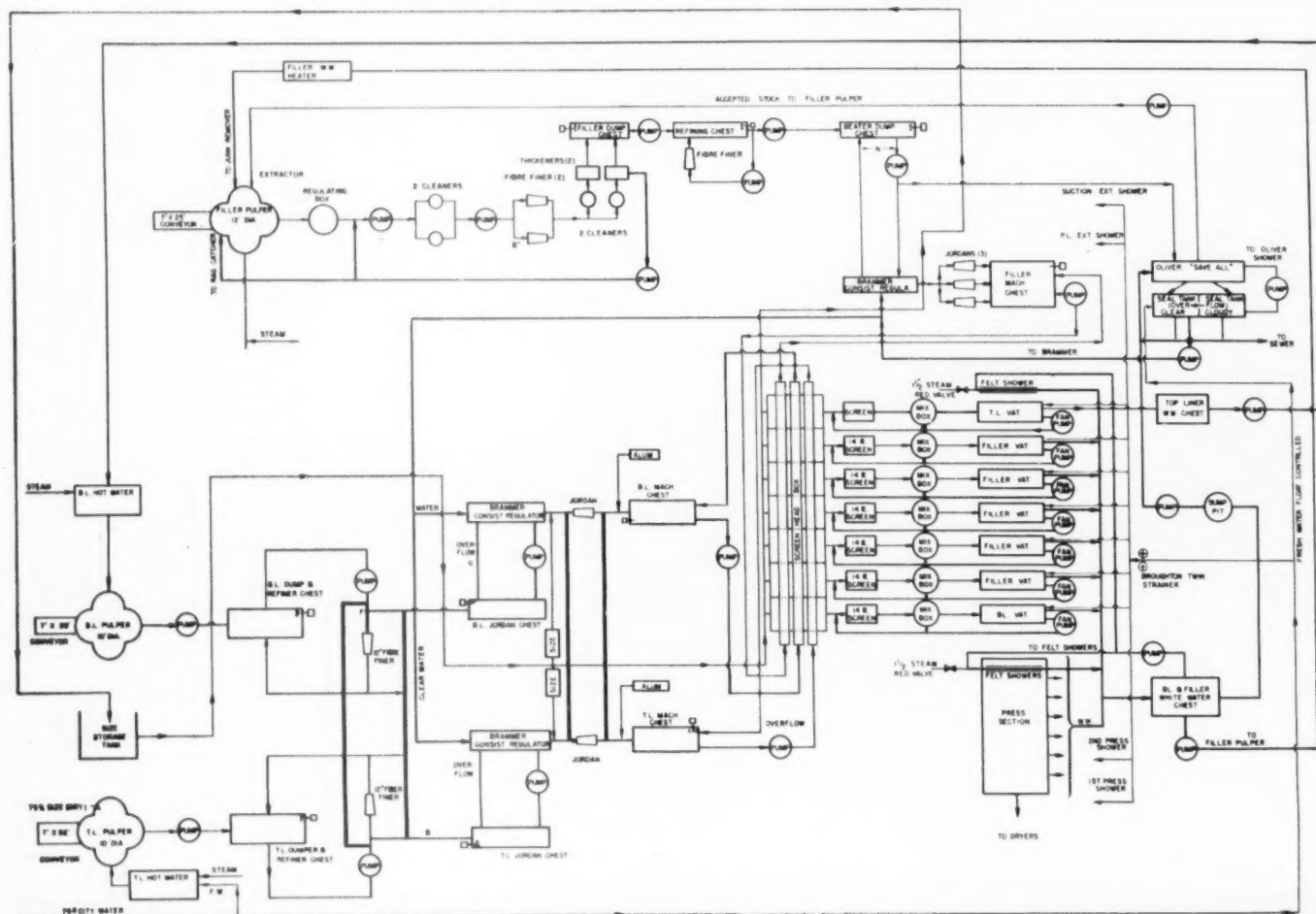
All this equipment is on the mezzanine floor with the long approach inlet hoppers, white water outlets and pumps on ground level.

"Advantage of the mezzanine type of construction can be seen by study of the dryer section," said Mr. Thornton, pointing out that the 2-deck dryers are set on elevated frames, with 5 ft. clearance above the floor, providing easy access for removal of broke.

Lubrication is by a DeLaval Unilube circulating pressure system, with sight

(Continued on Page 103)

FLOW CHART OF NEW 100-TON PER DAY CAPACITY LINER BOARD MILL BUILT BY CERTAIN-TEED PRODUCTS CORP. AT PRYOR, OKLAHOMA



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January 1953

49

A REPORT ON SALEM, ORE., MILL'S IMPROVEMENTS OREGON PULP & PAPER CO.



NILS TEREN (left), President and Gen. Mgr. of Oregon Pulp & Paper Co., and **T. R. PROBST** (right) Assistant to the Gen. Mgr.

Additional production facilities cut into operations of Oregon Pulp & Paper Co. plant at Salem, Ore., during late 1952, have resulted in marked increase of wood utilization. These new facilities, consisting of a modern wood room with hydraulic barker and a caustic extraction stage of bleaching, relieved the operation of its former dependence upon the adjacent sawmill of the company's lumber division for raw product wood. Since fire destroyed the mill's wood room some seven years ago, the sawmill has run on saw logs during the day and pulp logs at night.

According to T. R. Probst, assistant to the general manager, the wood room was designed and installed to save both wood and manpower. The caustic extraction stage was added to the bleach plant to further eliminate foreign particles from the resultant pulp and assure production of higher quality papers.

The new wood preparation facilities, housed in a large well-lighted structure with emphasis on extensive live storage between processing components, includes complete and modern processing equipment from log pond to chip screens.

Pulp logs reach the mill deck by an electric powered whirly crane which vertically lifts them 60 feet from log pond and places them on transfer chains leading to horizontal log haul. This Washington Iron Works crane, with 125 ft. steel boom, has 125 h.p. motor powering the hoist and 30 h.p. for slewing. It can lift 50-ton loads with the boom at 13 degrees off vertical.

As contrasted to conventional equipment for getting logs into the mill, this crane is frequently drafted for lifting a variety of items other than logs. The large cutoff saw regularly travels by this means to or from filing room. The crane can be used for dredging pond area and moves heavy equipment as needed through a circle of about 200 ft. diameter.

An unusual grapple operating in conjunction with the crane has received considerable interest among other forest products operators. According to Sulfite Superintendent George Moorhead, this bucket was built by Mack Welding Co. (Duluth, Minn.) to paper company design, arrived at through extensive previous experience with decked logs. It is said to be the largest ever built.

Logs are cut to appropriate length by a 96 in. Sumner air-swing cut-off saw before reaching transfer chains leading to the Bellingham type Sumner-built round-log barker which jets bark from logs up to 24 ft. long. A Bingham pump direct-



OREGON PULP & PAPER CO. OFFICIALS (l. to r.) **K. W. HENLEIN**, Resident Manager; **J. BENJAMIN BECK**, General Superintendent; **GEORGE MOORHEAD**, Sulfite Superintendent.

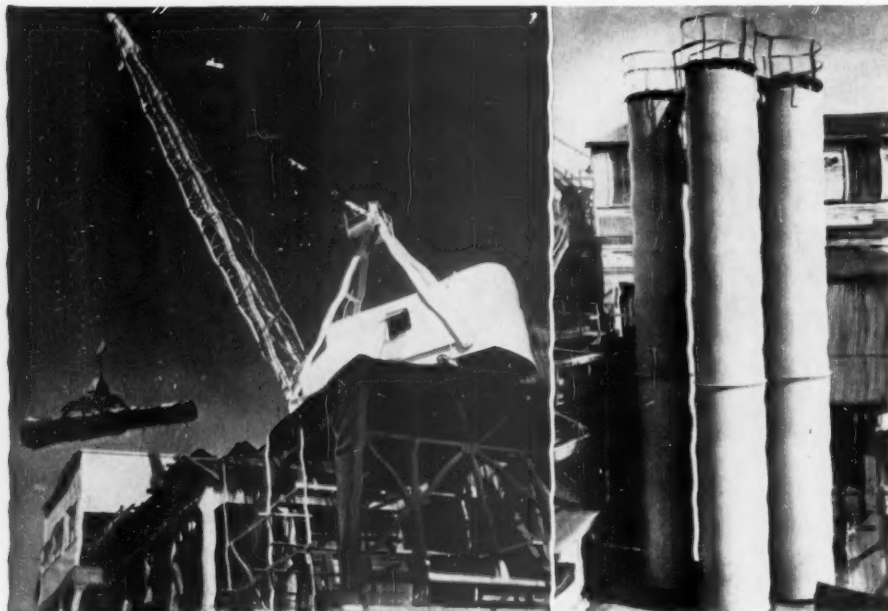
powered by 900 h.p. General Electric motor consistently provides the barker unit with water at 1300 p.s.i. This water, brought in several miles from Santiam River, passes through a settling basin and is subsequently screened before reaching the pump. Effluent from the barker flows to a Tyler screen to separate water from bark.

Dewatered bark travels by conveyor to a Sumner 45 hog for conversion into hog fuel for the power plant.

The barker has a variable speed drive system, built by Zidell Machinery & Supply Co., producing a wide range of speed variation on the trunnions rotating the logs undergoing barking.

Illumination of the barking area received special treatment. Between 15 and 20 foot-candles of light are provided by a combination of alternately located mercury and incandescent lights, 400 and 500 watt respectively. There are eight lights at each side of the barker.

Barked logs move onto transfer chains extending nearly the entire width of the main woodroom, the first of the live storage units incorporated into the plant for barked logs and cants. This transfer terminates at opposite side of the woodroom, there discharging to infeed end of a conveyor leading directly to the chipper located at far end of the building. Only small logs suitable for chipping without reducing to smaller size remain in this conveyor until reaching the chipper. All logs over 22 in. in diameter at largest point remain in the conveyor only until reaching transfer leading to carriage and headsaw facilities at opposite side of the mill. At outfeed end of this transfer, the second storage component, logs move onto an air-equipped no-man Sumner carriage powered by a General Electric amplydine controlled electric drive. A Klamath Iron Works 7 ft. silver-tooth band headrig, powered through 12-strand Goodyear V-belt by 250 h.p. General Electric motor, operates with the carriage to convert logs into cants which discharge onto Klamath off-bearing rolls. Lift chains, automatically activated when the lead end of cant contacts bumper at end of the rolls, move the cant onto transfer chains—another point of live storage—which discharge to twin



(LEFT) **WHIRLY CRANE**, built by **WASHINGTON IRON WORKS**, lifts logs from pond to deck with **MACK** grapple designed and engineered by Oregon Pulp & Paper Co.

(RIGHT) **CHLORINATED STOCK RETENTION TOWERS** built by **WILLAMETTE IRON & STEEL** and lined by **GRIFFITH RUBBER MILLS** were final phase of the Oregon Pulp & Paper project.

Our Congratulations . . .

To the Oregon Pulp & Paper Company at Salem, Oregon, on the completion of their new and modern woodroom . . . equipped to step-up production, conserve man-power and accomplish complete wood utilization.

MACHINERY BY **Sumner**

BELLINGHAM-TYPE WHOLE LOG HYDRAULIC BARKER

96" LOG DECK CUT-OFF SAW

TWO 7'-6" x 18' CHIP SHAKER SCREENS

NO. 45 ALL-STEEL REFUSE HOG

IMPROVED LOG DOGGING DEVICE

NO MAN CARRIAGE

112" SIX-KNIFE CHIPPER AND FEED CHUTE

Our Engineers can solve **YOUR** woodroom problems
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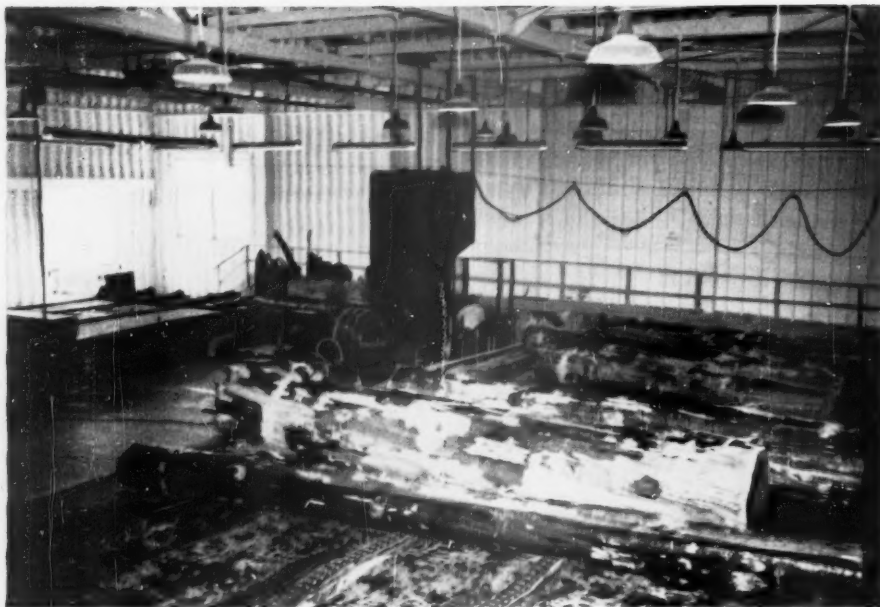
Canadian Sumner Iron Works, Ltd.
3550 East Broadway
Vancouver 12, B. C., Canada

DISTRIBUTORS

E. J. Nell Co., Manila
C. T. Takahashi Co., Tokyo
Lindeteves, N. V., Djakarta, Indonesia

MANUFACTURING LICENSEE

Vickers-Powall Pty., Ltd.
524-582 Victoria Street
Richmond, E. I., Victoria, Australia



band edger feed rolls. The cant processing unit, composed of two Klamath Iron Works 60 in. movable bandsaws—one right and one left-hand machine—both mounted on steel trackway common to each, reduces log-length components to suitable chipping size. Both bandsaw components are instantly movable laterally to optimum operating position by electric driven wormgear. Each saw is powered by a 60 h.p. G.E. motor.

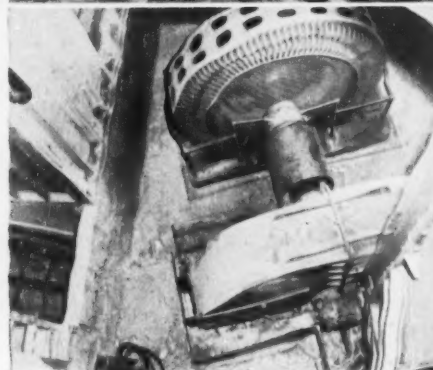
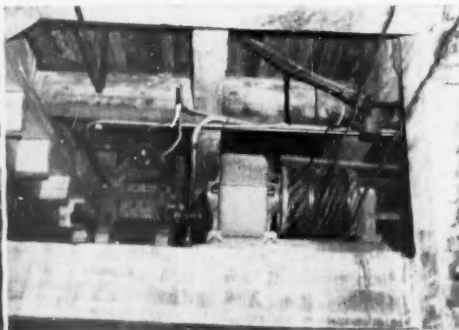
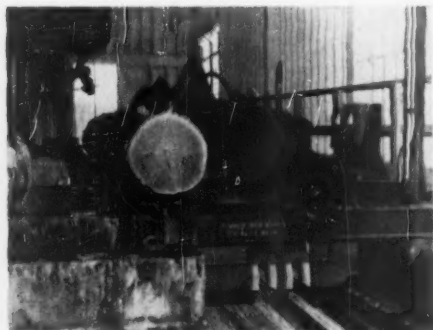
The feedroll section ahead of the twin band edger has a Zidell d. c. electric drive

which has 27 different feed speeds.

Both bandsaws can be in operation at same time. On cants 40 in. wide or over, both cut in the same piece as it feeds through. Pieces of lesser width can be cut singly with one saw component, or two such cants may be processed simultaneously—one saw per cant. Each cant goes through the band edger just once, the resultant components moving onto a transfer—another, but smaller, live storage section—which transports them to the conveyor leading to chipper.

(Upper left) CONVERTING LOG to cants at OREGON PULP & PAPER'S WOOD ROOM via SUMNER no-man carriage and KLAMATH IRON WORKS 7-ft. Band Headrig.

(Upper Right) SHOWN here at OREGON PULP & PAPER is final component of GENERAL ELECTRIC amplidyne carriage drive powering drum through WESTERN GEAR reducer.



(Lower left) SUMNER 110-INCH CHIPPER powered by 1000 hp Westinghouse motor is shown here in Oregon Pulp & Paper Co.'s new Wood Room.

(Lower Right) ALLIS-CHALMERS LOWHEAD DE-KNOTTER SCREEN, one of two installed last summer at Oregon Pulp & Paper Co. as part of renovation of bleach plant.

EXTENSIVE LIVE STORAGE between manufacturing components smooths out production in this general wood room view at Oregon Pulp & Paper Mill at Salem.

Chipping and Screening

Bark-free cants and small logs feed into a 110 in. Sumner chipper mounted on ground floor and powered by 1000 h.p. 320 r.p.m. synchronous Westinghouse motor. Chips drop into 2-section flight conveyor leading upward at 43 degrees to a new concrete surge bin which has capacity for nine cooks. The chips removed from here are screened by two new Sumner flat screens and elevated to chip bins over the digesters.

This wood room makes extensive use of chain for conveying and transferring between production components. Link-Belt Co. provided H-124 transfer chain and H-113 heavy conveyor chain, Electric Steel Foundry Co. furnished round-link and Portalloy conveyor chains, roller chain, sprockets, bearings and shafting.

Heavy conveyors and transfers are electrically driven through Western Gear Works gear reducers and the lighter components though Pacific-Western gearhead drives. Two Ingersoll-Rand compressors, operating on ground floor, provide air for cylinders throughout wood room.

Automatic controls provide important protection against pile-ups and contribute to safety and efficiency. The barker control center has a pushbutton master switch cutting off power to transfer ahead of barker, barker rolls, transfer from barker and the barker pump. Lockout of this control eliminates any possibility of starting any components. Interlocking of the hog and all conveyors forestops the chance for pile-ups.

Bleach Plant Extension

Changes made in the pulp mill as part of this modernization program includes adding a caustic extraction stage, new bleach cells, two new bleached pulp storage chests, and two Allis-Chalmers low-head 3 x 9 ft. knoter screens replacing rotary knotters.

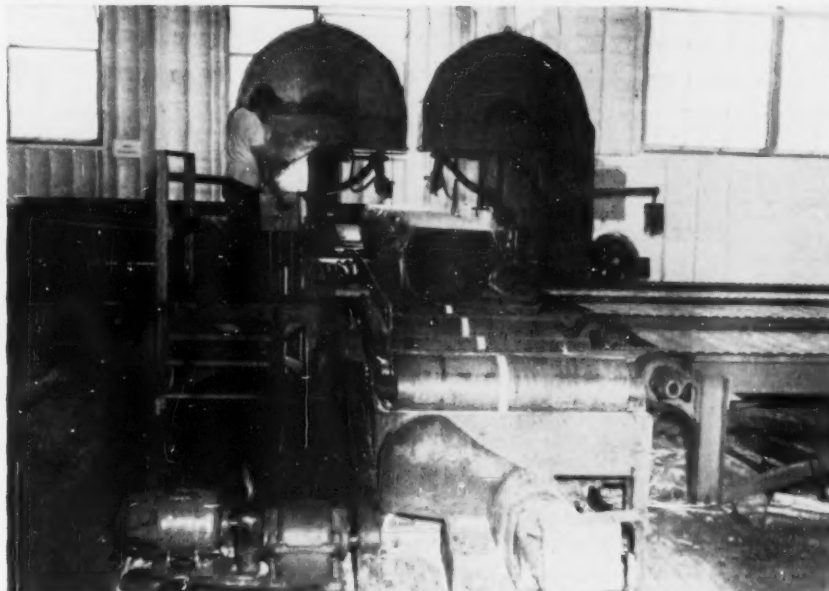
Previous to the recent changes, bleaching was in two stages—chlorine absorption, and calcium hypochlorite liquor. Addition of the caustic extraction stage, between the original stages, required adding two new bleach cells. These have steel shells built by Salem Iron Works, and are lined by Chemical Linings, Inc. They have Esco stainless steel worm agitators, for circulating stock. Each cell has capacity for 7000 lbs. of 12 per cent consistency pulp per charge.

In changing the bleach set-up, an Oliver filter equipped with Lamb-Greys Harbor extraction roll has been utilized for final thickening in the second wash.

Three vertical retention towers, 6 ft. diameter steel cylinders 45 ft. high built by Willamette Iron & Steel and rubber lined by Griffith Rubber Mills, were installed as the final phase of the project.

Design and engineering of the bleach plant was carried on by key personnel of Oregon Pulp & Paper. In addition to President Nils Teren, Mr. Probst and Mr. Moorhead, the following played important parts: Resident Manager K. W. Heinlein,

PROMINENT PULP AND PAPER OPERATORS
Use **KLAMATH IRON WORKS EQUIPMENT**



5 foot Twin Bands Breaking down stock for Chipper at Oregon Pulp & Paper Co.

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Congratulations to the
OREGON PULP AND PAPER
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We are proud that one of America's most
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 Zidell's Electric Carriage Feed Drives
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ZIDELL
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At Salem, Oregon

For Bleach Plant EXPANSION

Oregon Pulp & Paper Co.

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Interior of a Bleach Coil at Salem

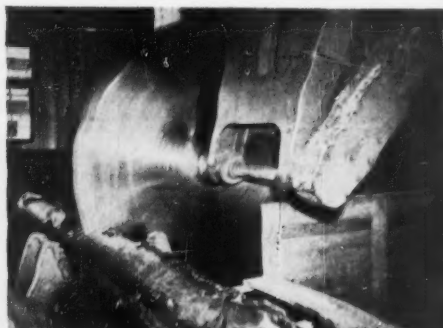
CHEMPLATE ACID RESISTANT LININGS

CHEMICAL LININGS, INC.

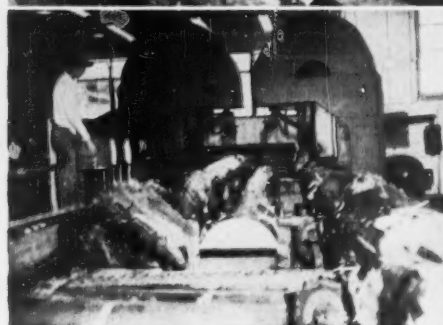
500 Trust Co. Bldg.
 Watertown, N. Y.

203 White Bldg.
 Seattle 1, Wash.

(Upper left) CUTTING LOGS to length with SUMNER SWING CUT-OFF using SIMONDS 96 in. inserted tooth saw in Oregon Pulp and Paper's Wood Room.



(Upper right) BINGHAM PUMP, direct driven by 900 hp GENERAL ELECTRIC motor, provides water for the SUMNER hydraulic barker at 1300 p.s.i. at Oregon Pulp & Paper Co.



(Lower left) RUNNING TWO CANTS simultaneously through KLAMATH IRON WORKS twin band edger in Oregon Pulp's Wood Room to reduce them to smaller components for chipping.



(Lower right) PHOTOGRAPHED BY PULP & PAPER at OREGON Mill in Salem are these chips enroute to surge bin in conveyor operating at 43-degree incline.

General Superintendent J. Benjamin Beck, Chief Electrician C. G. Richards, Master Mechanic O. P. Wegner, and Jess Cox, woodroom foreman.

So. Calif. Meeting

"Printability of Board" was the subject of a panel discussion at the September dinner meeting of Papermakers and Associates of Southern California, Sept. 18 at Lynwood, suburb of Los Angeles. Speakers included, Otto Sass, Pioneer-Flintkote; William Richards, Container Corp. of America; Dr. Aaron Miller, Kelco Co.; Herbert Brigden, Fibreboard Products.

Coast Wage Base Reaches \$1.72 Per Hour

A wage increase of two cents per hour was approved Nov. 24 by the Pacific Coast Association of Pulp and Paper Manufacturers and AFL delegates representing 18,000 workers in 36 plants in Oregon, Washington and California. Based on the Consumers Price Index of Oct. 15, this is the maximum increase allowable under Wage Stabilization Board regulations.

This ups the starting rate in the Pacific Coast pulp and paper industry (U.S.) to \$1.72 per hour for men and \$1.44 for women, and adds \$725,000.00 to the annual payroll.

GEARHART "HOMECOMING"

A galloping case of severe *nostalgia* has broken out on the West Coast.

It has stricken nearly all members of Pacific Coast Superintendents Division and Pacific Coast TAPPI Section. Without calling in any outside medical assistance, they collectively decided the only soothing relief in sight for them is to go back to the pounding ocean surf at Gearhart, Ore.

In other words, they have decided to resume their Joint Spring Meetings this year at the Oregon beach resort on May 22-23.

Three similar successive and happy meetings were held at Gearhart in 1946, 1947 and 1948. Since then they have gone to Victoria, B.C., twice, Seattle once and deferred to a big national meeting in

Portland, Ore., another year. Homesickness pangs for Gearhart became more virulent year by year, with symptoms comparable to those of a college grad dreaming of homecoming.

So its going to be "Homecoming" at Gearhart this spring and now everyone keeps fingers crossed and prays the good luck they had with weather '46-'48 returns. Nearly everyone agrees there is no place more desolate than an ocean beach in rain, even if it is the historic spot where the Lewis and Clark discovery trail ended, which is Gearhart. But others say: "It would keep 'em in the meetings."

Co-chairmen of the event are William W. Clarke, Longview Fibre, for the Superintendents, and Fred Weleber, Publishers



THEY KEEP THINGS HUMMING AT OREGON PULP & PAPER CO.: (Above, right) JESS COX, Woodroom Foreman; Below (l. to r.) C. G. RICHARDS, Chief Electrician; and O. P. WEGNER, Master Mechanic.



(ABOVE) ONE OF OREGON PULP & PAPER'S NEW BLEACH CELLS and (BELOW) Interior of bleach cell showing CHEMICAL LININGS, INC. tile work and ESCO stainless steel worm agitator.

Paper Co., for TAPPI. Their committee colleagues are:

Housing: Herb Beck, Nat. Analine; Hugh Gardiner, Pac. Coast Supply; John Ayres, Dupont; Gordon Petrie, Black-Clawson.

Ladies Activities: John Fulton, Pac. Coast Supply; Bob Baer, Griffith Rubber. Golf: Jack Wilcox, ESCO.

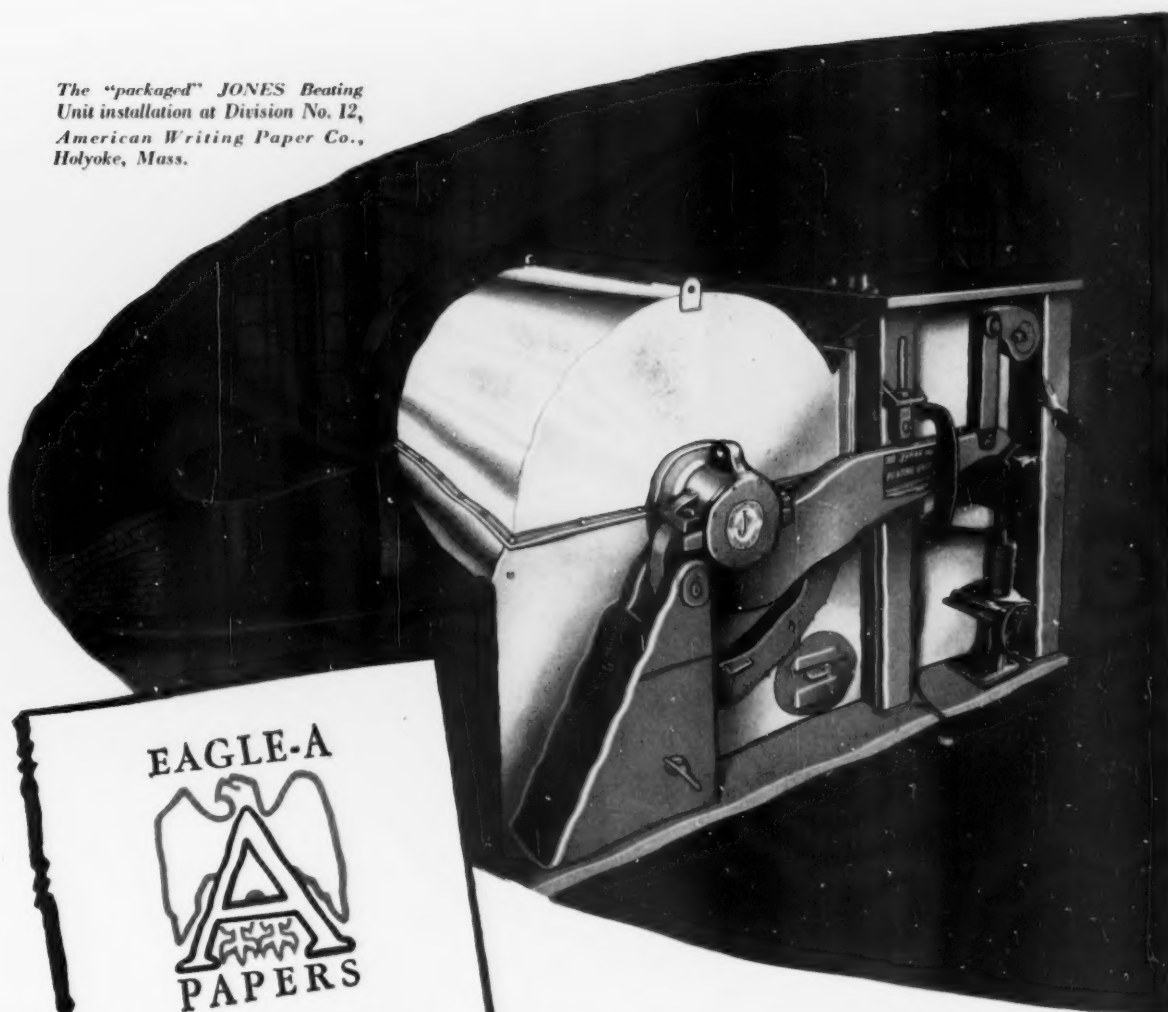
Publicity: Al Wilson, PULP & PAPER.

Finance: Herb Peterson, Hercules; Burke Morden, Morden Machines.

Entertainment: Walt Salmonson, Draper; Bob Smythe, Ray Smythe Co.

Speaker arrangements: Zina Wise, Griffith Rubber.

The "packaged" JONES Beating Unit installation at Division No. 12, American Writing Paper Co., Holyoke, Mass.



EAGLE-A



couldn't
be better

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BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

January 1953

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PAPER CHEMICALS DEPT., AMERICAN CYANAMID CO., at its annual technical service meeting in the A. C. Co. labs in Stamford, Conn.

Bottom row, l. to r. A. Kellen, Res. Lab.; D. Lurie, N.Y.; R. P. Chapman, Res. Lab.; H. Sinclair, Wax Size Consultant; F. A. Strovink, N. Eng. Sales; C. G. Landes, Res. Lab.; R. W. Kunkler, Tech. Dir., N.Y.; J. T. Thurston, Dir. Res. Lab.; J. M. Walsh, Dept. Mgr., N.Y.; A. C. Bate, East. Regional Mgr.; G. E. Froum, Western Regional Mgr.; K. E. Youngchild, Southern Regional Mgr.; L. P. Moore, Res. Lab.; D. W. Jayne, Res. Lab.

Second row, l. to r. E. J. Meier, Tech., N.Y.; A. R. Skelton, Southern Sales; A. R. Sinclair, Western Sales; N. T. Woodberry, Res. Lab.; R. Hastings, Res. Lab.; O. M. Cornell, Midwest Sales; J. M. Verdon, Midwest Sales; R. A. Johnston, Canada Sales; R. W. Lull, West Coast Sales; L. S. Simser, Midwest Sales; D. D. Ritson, Res. Lab.; R. N. Prince, N. Y. State Sales; S. T. Moore, Res. Lab.; H. Trachtenburg, Res. Lab.; V. V. Lindgren, New Prod., N.Y.; W. M. Woodling, Res. Lab.; E. R. Kolodny, Res. Lab.; F. Roberg, Res. Lab.

Third row, l. to r. R. Oates, Res. Lab.; P. Calott, Midwest Sales; L. H. Wilson, Res. Lab.; J. R. Wellman, Midwest Sales; R. O. Lindsey, N. Eng. Sales; R. R. House, Res. Lab.; R. B. Porter, Res. Lab.; C. S. Maxwell, Res. Lab.; A. R. Savina, Res. Lab.; F. R. Boyle, Eastern Sales; W. F. Reynolds, Res. Lab.; J. E. Garrison, West Coast Sales; R. S. Mead, Southern Sales; G. D. Lord, Mid-South Sales; J. Francis, Res. Lab.; J. F. Gorham, Res. Lab.; E. Strazdins, Res. Lab.

FOR ALAN DUNHAM—25 YR. PIN



ALAN DUNHAM (left), Portland, Ore., being awarded 25 Year Service Pin by PRES. RAYMOND J. LEE of Lockport Felt Co. Mr. Lee went west especially to pin the emblem on Mr. Dunham's lapel at a Los Angeles dinner party. That's how long he served as Lockport's West Coast representative, moving across continent from New York City, where he had served the industry in East Canada and East U. S. Mr. Dunham was born in Montreal. W. W. Campbell Jr., Lockport's new sales mgr. attended and made a 3-weeks tour of mills with Mr. Dunham.

IN INDUSTRY NEWS



SID COLLIER (left), Pulp Mill Supt. of the Har-mac bleached market kraft mill of MacMillan & Bloedel Ltd., completed tours of eastern mills by mid-October and was traveling late that month in the Midwest area, accompanied by Mead Sales representatives. Mr. Collier was formerly Asst. Supt. at the Puget Pulp mill in Bellingham before going to the Harmac plant, one of the new West Coast mills. GEORGE SWALLOW (right), new Project Engineer with Johns Manville paper and felt mill at Manville, N. J. Born in Indianapolis, he was Paper Mill Engineer for West Virginia Pulp & Paper at Charleston, S. C., until last summer when he accepted the Manville post. He is a 1943 Cornell alumnus.

THEY WENT TO ROME



DON J. MACLAURIN (left), Research Associate and Chief of Pulp & Papermaking Section, Institute of Paper Chemistry, Appleton, Wis., and W. O. HISEY (right), Vice Pres. of Sandy Hill Iron & Brass Works, Hudson Falls, N. Y., went to Rome, Italy, in December to attend United Nations FAO meetings to consider standards for pulping tropical woods and their suitability for paper. They were among some 20 experts invited. Mr. MacLaurin is native of Revelstoke, B.C., graduate of U. of Washington, Seattle, and former Tech. Director of Powell River Co. He was also with Kimberly-Clark and B.C. Pulp & Paper. He will visit Sweden, Germany and France, too. Mr. Hisey has had industry experience in U.S., South Africa and traveled extensively for Sandy Hill projects.

JOIN VULCAN OF CINCINNATI



VULCAN COPPER & SUPPLY CO., engineers and builders of alcohol plants, SO₂ recovery systems and other chemical plants, Cincinnati, O., announce two staff additions—HARRY W. HAINES JR. (left), who will be a Development Engineer and who comes from Mellon Institute, and MARTIN FIELDS (right), Assistant Project Engineer, who was formerly with Takamine Laboratories and First Machinery Corp.

FOR MORRIS MACHINE WORKS



W. R. MERCER (left), has been appointed Sales Manager, and R. E. JACOBY (right), has been named Chief Engineer, both for Morris Machine Works, Baldwinsville, N. Y., manufacturers of centrifugal pumps. Mr. Mercer, graduate of U. of Michigan, first joined Morris in 1936 and returned in 1949 after being with Solvay Process and Syracuse Supply. He succeeds WILLIAM H. PFARRER, who moved to 211 West Wacker Drive, Chicago, as General Manager there for Morris Machine Works. Mr. Jacoby joined Morris after graduating from Antioch in 1947.



C. H. ROBERTSON, Production Manager at Albe-marle Paper Mfg. Co., Richmond, Va., with F. D. GOTTWALD, Jr., his new assistant and Superintendent of the company Brown's Island mill. Mr. Gottwald takes over following transfer of M. D. BOINEST from Brown's Island to be Superintendent of the new paper machine being built at Halifax Paper Co., in Roanoke Rapids. G. A. TRAINHAM has been promoted to Assistant Superintendent of papermaking at Brown's Island.

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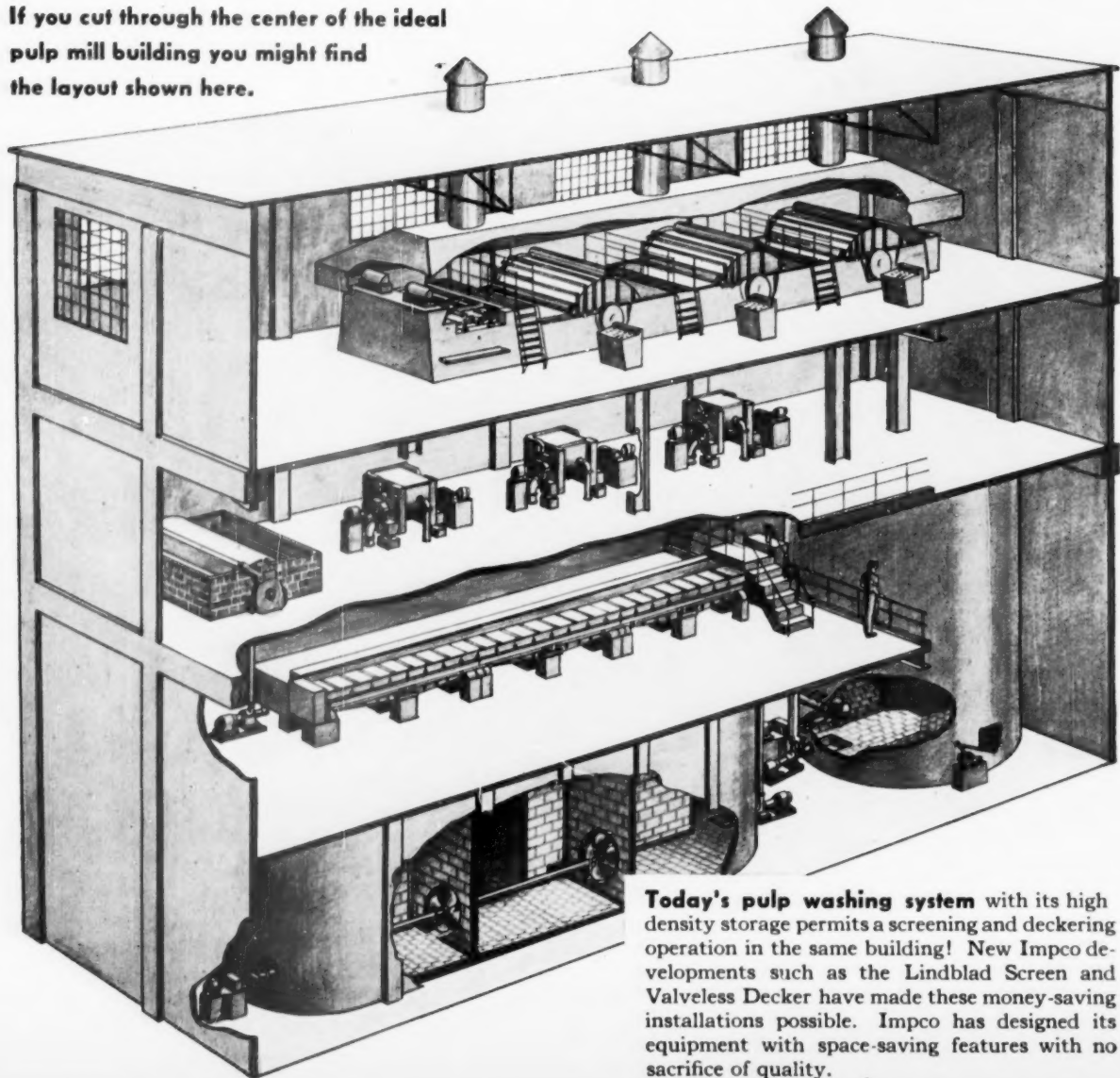
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BULKLEY, DUNTON CELLULOSE EXPORTS, INC. • BULKLEY, DUNTON PAPER (FAR EAST) CO., INC.
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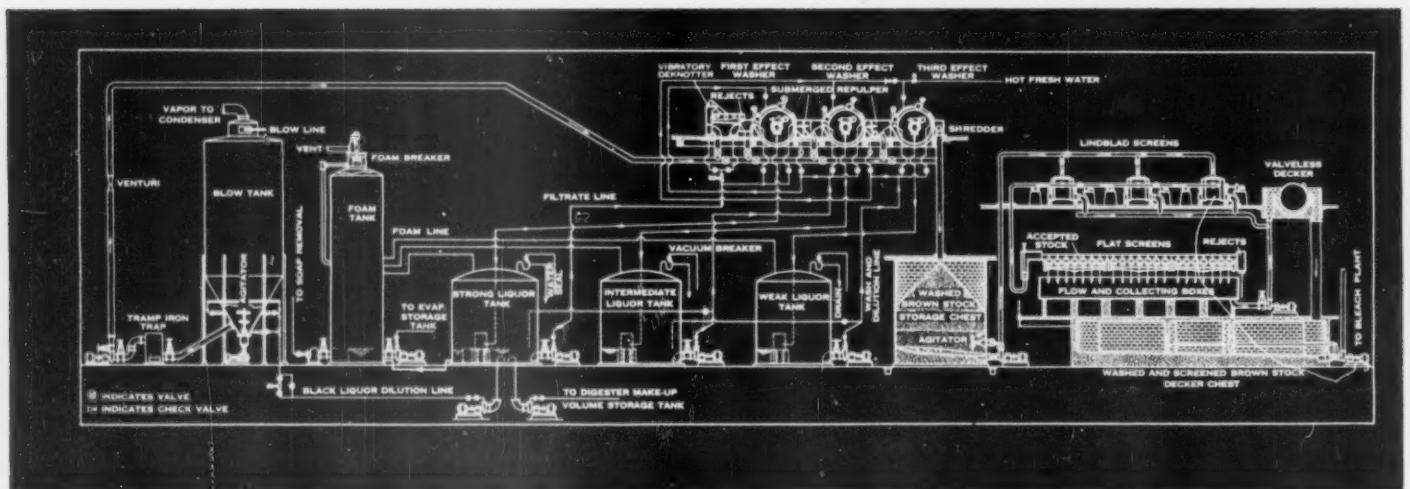
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295 MADISON AVENUE, NEW YORK 17, N. Y.

IMPCO Now Makes Possible a

If you cut through the center of the ideal pulp mill building you might find the layout shown here.



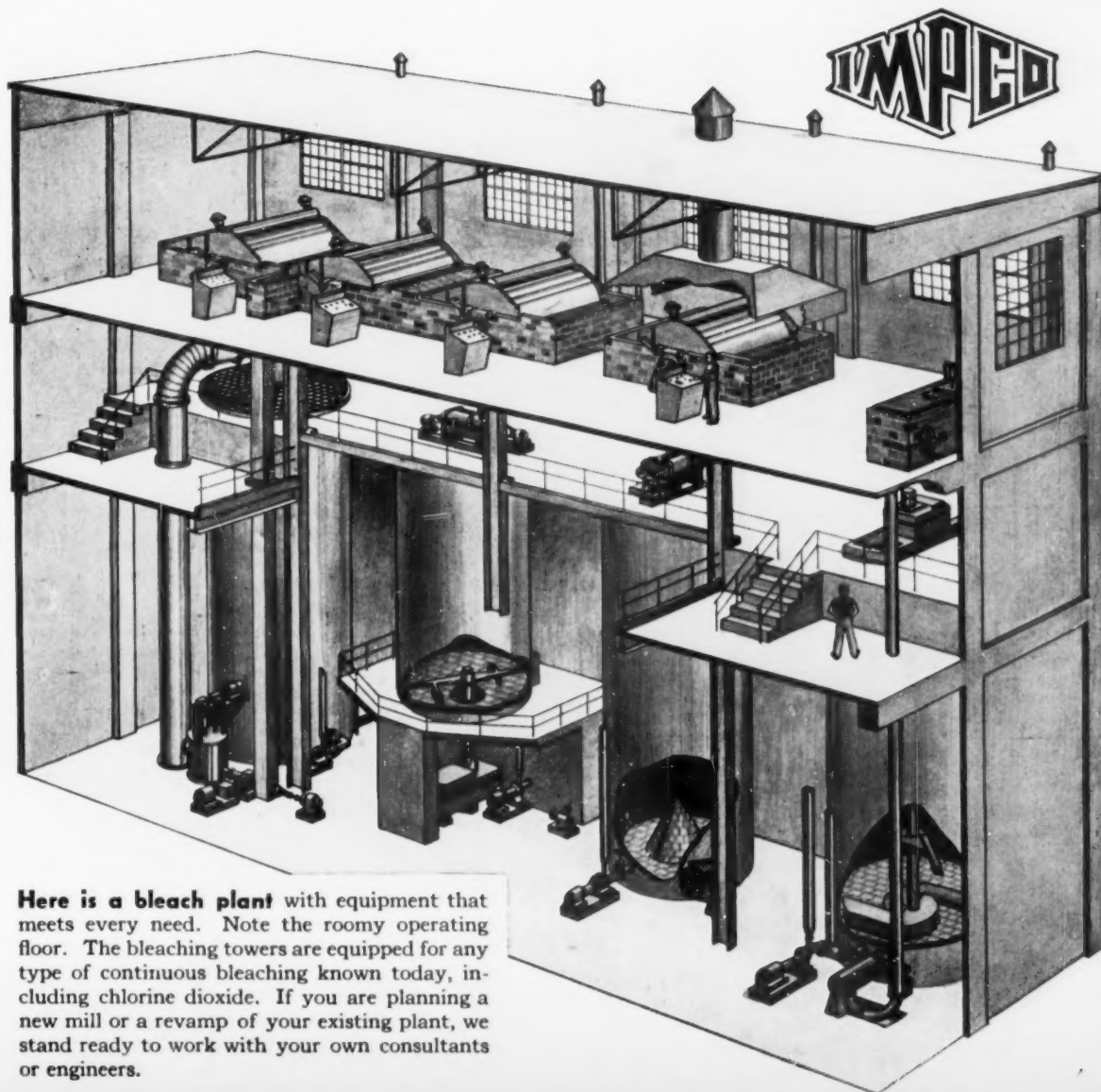
Today's pulp washing system with its high density storage permits a screening and deckering operation in the same building! New Impco developments such as the Lindblad Screen and Valveless Decker have made these money-saving installations possible. Impco has designed its equipment with space-saving features with no sacrifice of quality.



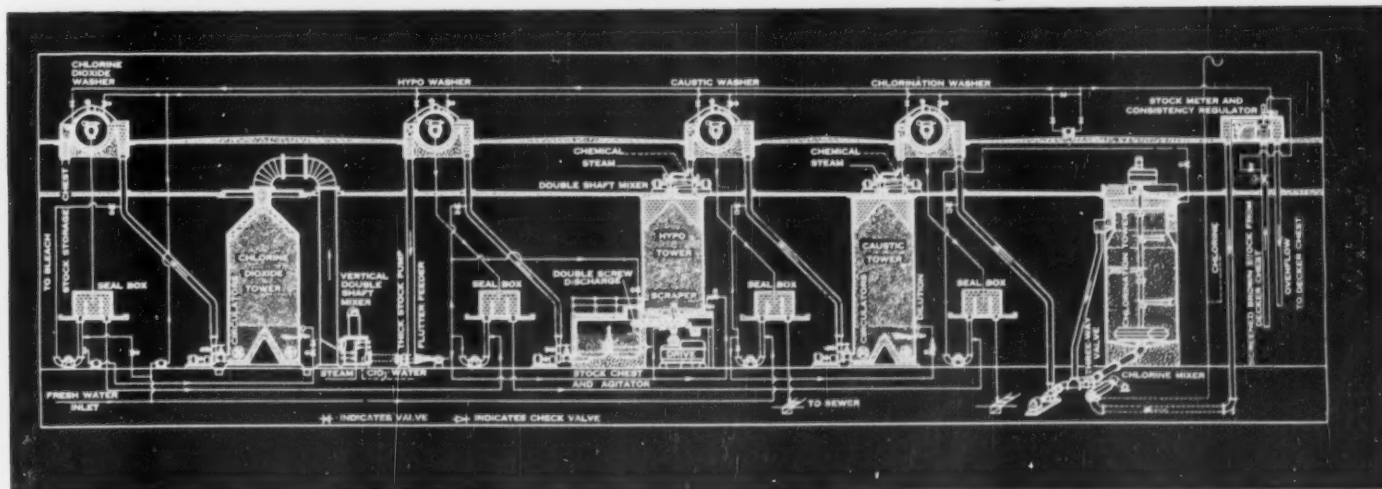
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Compact Integrated Pulp Mill



Here is a bleach plant with equipment that meets every need. Note the roomy operating floor. The bleaching towers are equipped for any type of continuous bleaching known today, including chlorine dioxide. If you are planning a new mill or a revamp of your existing plant, we stand ready to work with your own consultants or engineers.



CORP.—Nashua, New Hampshire
 manufacture similar equipment in Canada.

NEWS IN PICTURES—ABOUT INDUSTRY MEN COAST TO COAST

THEY CAME FROM THE SOUTHWEST— JIM JELKS—GUY SANFORD



JAMES W. JELKS (left), Consulting Engineer of (3000 Princeton Ave.) Middletown, O., who now represents Denver Equipment Co., which has developed new froth flotation process and equipment being used in de-inking plants and de-waxing plants. Born in Sand Springs, Okla., educated at U. of Ark. and U. of Tulsa, he was an aircraft engineer until—settling in the "paper" town of Middletown—he found it easy to turn to paper industry engineering, which he likes better. Married Mary McVay of a Middletown "paper" family and they have two daughters. **GUY E. SANFORD** (right), newly appointed Sales Engineer for black liquor evaporators for Goslin-Birmingham Mfg. Co., Birmingham, Ala., succeeding **JACK STEWART**, who went with Rotaread Corp. Born in 1922 in Mt. Home, Ark., he moved to California, attended Stanford and graduated from U. of Alabama as chem. engineer.

MANAGERIAL APPOINTMENTS— ANHEUSER-BUSCH—HOOKER



TATE M. ROBERTSON JR. (left), who has been appointed Sales Mgr. of Corn Products Department of Anheuser-Busch, Inc., St. Louis, producers of quality starch products and dextrines. His selection and promotion was announced by A. van Gentard, Vice Pres., and Arthur E. Weber, Gen. Sales Mgr. Mr. Robertson has been many years with the company that made the name of Budweiser world renowned. In his department, Ed. Gillen, Ken Battenfield, C. F. Hoelderle and others continue in its "star-staff" of technical experts serving the paper industry, with Fred Bloch, an affiliated representative in the Far West.

THOMAS E. MOFFITT (right), appointed Western Manager of Hooker Electrochemical Co., Tacoma, Wash., as announced by Blarne Klaussen, Exec. V.P., and R. W. Hooker, V.P. (Sales). Mr. Moffitt succeeds Col. A. H. Hooker, on leave on physician's advice. Mr. Moffitt will head up all Hooker affairs in the west, including British Columbia. He has been Works Mgr. at Tacoma and for years was Asst. Sales Mgr. He originally joined Hooker in 1930. **HORACE W. HOOKER JR.** has been appointed Western Sales Mgr., succeeding **COL. AL H. HOOKER**, on leave on physician's advice. The latter contributed greatly to growth of the company in the West.

PANELLIT SALES CHIEF



MILLARD D. SHRIVER, formerly of Bristol Co. and longtime known from coast to coast in the paper industry, is Sales Mgr. of the new Panellit Co. of Chicago, developers of the new graphic panel boards now being introduced in bleaching, screening and other extensive paper operations. He attended the University of Buffalo.

His appointment was announced by Albert F. Sperry, president of Panellit, 6312 No. Broadway, Chicago 40. Mr. Shriver was with Bristol 10 years, traveling all over North America as project and application engineer and a specialist in pneumatic controls. He is married and has four children. He was born in Buffalo.



ROBERT E. BUNDY (left) has been promoted to Executive Vice Pres. of Fibreboard Products, Inc., San Francisco, and **M. E. SANFORD** (right) has moved up to succeed Mr. Bundy as Vice Pres. in charge of Production. He has been General Production Mgr. Both have had wide experience in the company, particularly in operating. Among previous assignments, Mr. Bundy for some years was Mgr. at Port Angeles, Wash., when Mr. Sanford was Mgr. at Sumner, Wash., two of the chain of F P mills that work together closely.



WILLIAM C. RINDSLAND (left) new Resident Engineer for Fernandina, Fla., Div., Rayonier Inc. He graduated from Univ. of Minnesota in 1934. He had been Plant Engineer at International Falls, Minn., mill of M & O Paper. In World War II, he commanded an Engineering Army Combat Battalion in European action and attained rank of Lieut. Col.

WARREN A. CHILSON (right), appointed Technical Assistant to Director of Production Leo Geiser of Champion Paper & Fibre, will head-quarter at Hamilton, O. Mr. Chilson, native New Englander, Northwestern graduate, was former Advisor to Pres., Northern Paper Mills Green Bay, Wis., and recently Sales Mgr. of Curlator Corp. He also has been past Plant Mgr. of Cellulose Corp., and was with Hooker and Sandy Hill.

STAN LEISHMAN—VERNON TIPKA



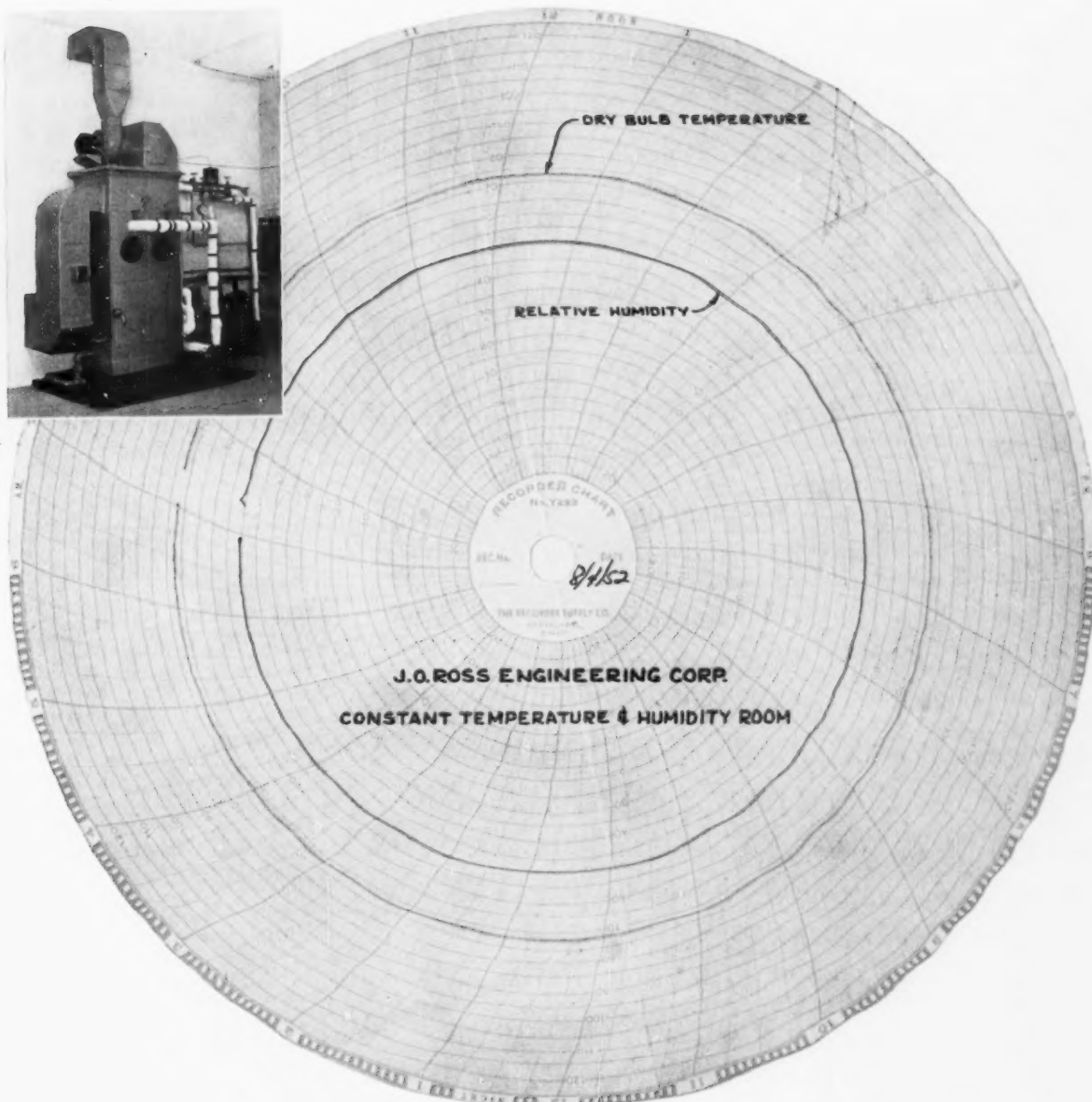
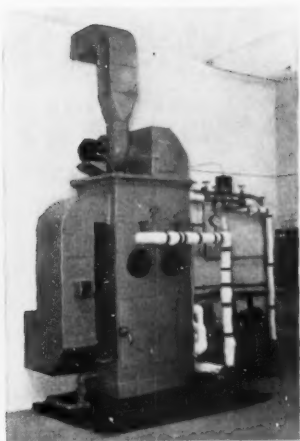
STANLEY LEISHMAN (left), who has been appointed General Supt., Provincial Paper Co., Thorold, Ont., where he assumed his new duties in November. Mr. Leishman has been Paper Mill Supt. at the Escanaba, Mich., mill of The Mead Corp. In his career he has worked in mills as far apart as Ocean Falls, B. C., and the Dill & Collins mill in Philadelphia.

VERNON L. TIPKA (right), who has joined St. Lawrence Paper Co., Norfolk, N.Y., as Assistant to the President (Jas. L. Knight). This 100 tons mill, with two Fourdriniers and bleached groundwood and sulfite pulp mills, was recently sold by St. Regis. Mr. Tipka, who resigned as Secretary-Treasurer of the Newsprint Service Bureau in New York, to accept the post, formerly held high production and technical positions with the former Hawley Pulp & Paper Co. (now Publishers Paper), Oregon City, Ore., and Paper Corp. of America, Cheboygan, Mich. He was raised, attended college in Oregon.

YOUNG TO SAN FRANCISCO: EDWARDS MADE VICE PRES.



R. H. R. YOUNG (left) who has been with Pacific Mills, Ltd. at Vancouver, B. C., as Vice President in charge of Manufacturing, has been named Assistant Vice President of Manufacturing with Crown-Zellerbach Corp. in San Francisco. Vancouver-born, Bob Young worked with the old Rainy River Pulp & Paper Co. at Port Mellon and the Whalen Pulp & Paper Co., predecessor of B. C. Pulp & Paper Co. (now Alaska Pine & Cellulose) before joining Pacific Mills at Ocean Falls in 1922. After graduating from Oregon State College he worked in lab. and engineering in West Linn, Ore., returning to Ocean Falls as Asst. Mgr., becoming Res. Mgr. in 1941. Five years later he was transferred to Vancouver as Mgr. of Manufacturing. **R. R. EDWARDS** (right) who joined Pacific Mills, Ltd. in 1947 as Asst. Res. Mgr., has been named a Vice Pres. of the company, according to President **PAUL E. COOPER**. He continues as Res. Mgr. at Ocean Falls. His first job in the industry was with Wayagamack div., Consolidated Paper Corp., Three Rivers, Que., where he became Groundwood Supt. In 1944 he joined Bathurst Power & Paper Co., as Production Supt.



Actual chart from ROSS Constant Temperature & Humidity Room Installation. Note uniformity of conditions obtained by ROSS special unit using Air Saturation Type equipment. It is the results that count so—specify ROSS equipment.



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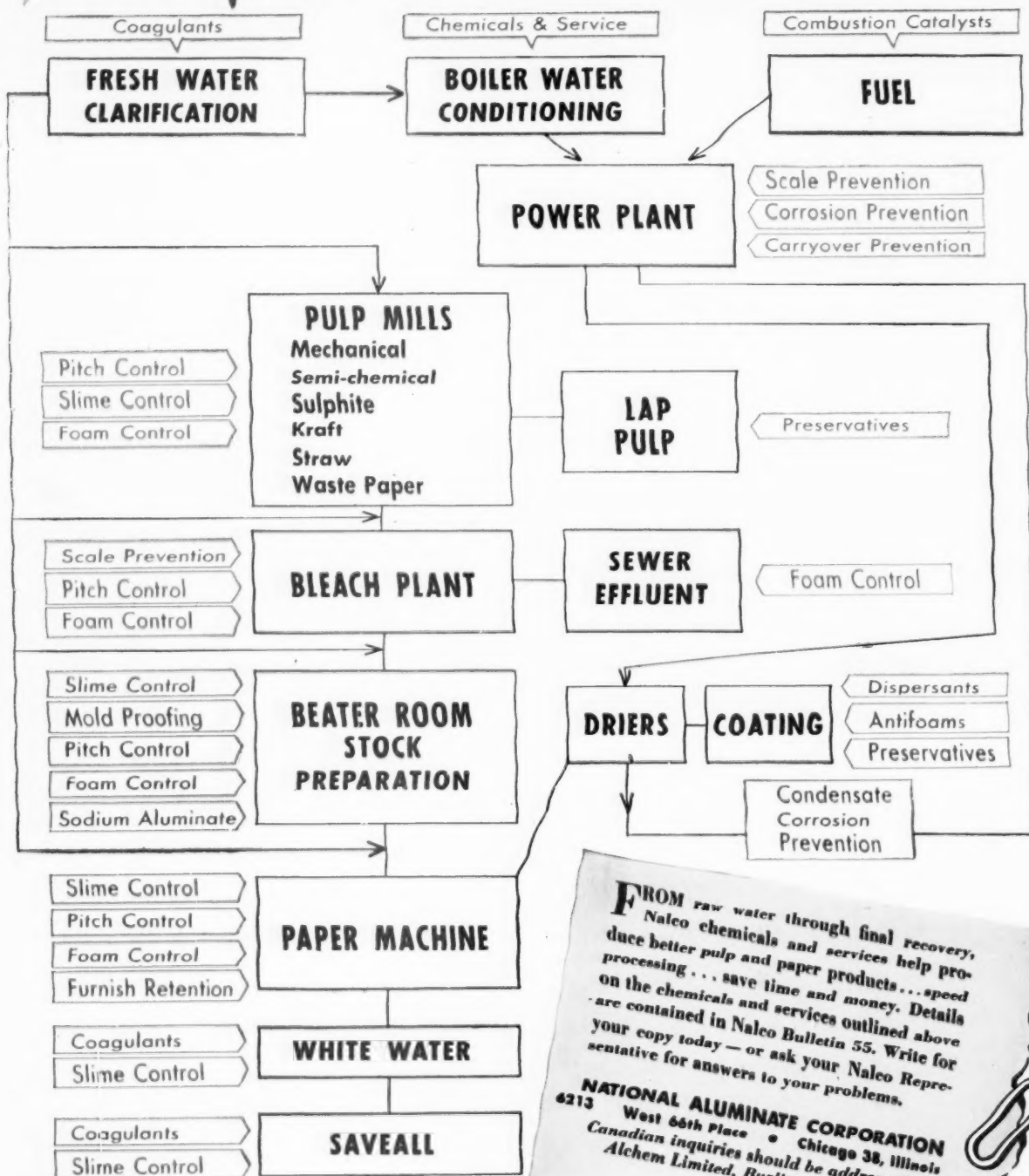
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January 1953

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SULFITE POLLUTION

SOLUTIONS LIE IN RESEARCH — NOT LAWS

By Folke Becker

President, Rhinelander Paper Co., and President, Lake States Yeast Corp.

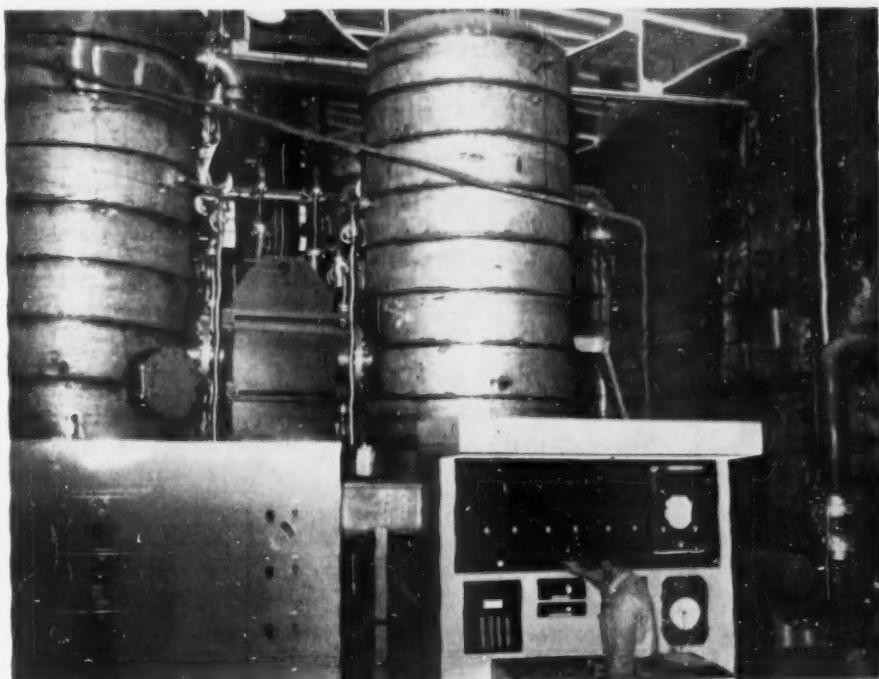
THIS EXCLUSIVE PHOTOGRAPH OBTAINED BY PULP & PAPER at Rhinelander shows entire huge stainless steel Evaporation Plant on operating floor with Control Board in foreground and operator at controls. General American Transportation provided heaters and vapor bodies and some stainless piping for this Conkey Flat plate Rosenblad reversible triple effect evaporating system.

(Outlining the background of joint efforts of Wisconsin mills to solve their sulfite pollution problem and the economic and other reasons behind the steps taken at Rhinelander, Mr. Becker made the following address on Nov. 19 to press and radio guests at the formal opening of its huge new stainless steel evaporation plant. This is the first multiple effect installation of Conkey Flat plate Rosenblad switching evaporator in America. Products, trade named Toralig, are already being sold for food product extract, adhesives, cement mix, tanning mixtures, and may be sold for paper sizing, linoleum cement, foundry core and biquet binders. Any residue will be burned in Rhinelander, but coal is better and cheaper fuel. Equipment and process details are published in a separate story with this article).

It gives me great pleasure to welcome you here for the official opening of this plant.

Your organizations not only have recognized the importance of stream pollution control as news and given it publicity for a long while back, but also you have seen—and publicly stated—that it is significant to the welfare of labor and industry, of sportsmen and of the general public, that the solution should be reached sensibly and with due regard for fairness to all concerned. Many of you have repeatedly pointed out to your readers that the pollution problem can be solved only by painstaking technical progress, not by getting emotional about it or passing a law to forbid it. We who have been struggling with the technical difficulties have appreciated your interest and your intelligent handling of the facts.

Most of you know sulfite pollution is not something new, even though much of the fuss made about it in recent years might lead to that belief. The sulfite process for dissolving everything else out of wood to free the fiber for making paper was developed in this country about 75 years ago and spread rapidly all over the world because it made better pulp than ever existed. It is just as important today, it is essential to many of the most necessary



types of paper. Even newsprint contains 15% or more of sulfite.

As soon as the first sulfite mill began discharging spent liquor to the stream, it became evident that it was not good for fish. Later they found out it was mostly the wood sugar in the stuff; it used up the dissolved oxygen in the water.

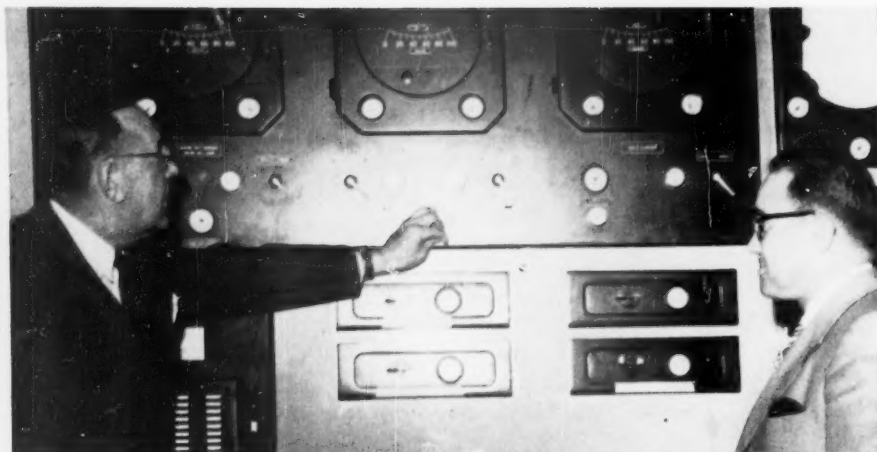
Sulfite liquor proved extremely hard to dispose of in any other way, though. We must skip the details, but the stuff licked science for many decades. Public authorities have been pressing for a solution for 75 years, in every area where sulfite pulp is made. A few mills found ways to reduce their own pollution, but most of these were what we call one-mill processes. An example is the Howard Process developed years ago by Marathon Corp.

The first really promising effort to develop remedies on a larger scale was the founding of the Sulfite Pulp Manufacturers' Research League in 1938 by a group of Wisconsin and Michigan mills. A dozen or so of us at that time chipped in our money for cooperative research. The League has made more progress than practically all the rest of the world-wide sulfite industry. Today many Wisconsin mills are using various methods developed by the League, and are reducing their pollution appreciably. What any League

member mill learns about pollution techniques becomes the property of all member mills.

Rhinelander Paper Co. has pioneered some important developments as these have developed in Wisconsin. Our torula yeast plant was built in 1948 by League members who subscribed \$500,000 to form the corporation. Our mill put more money into it then than any other mill, which is why it was built right here. In 1950 Rhinelander Paper Co. bought Lake States Yeast Corp. At that time Mr. J. M. Holderby, who had headed up the League program since 1939, came to us as manager of Rhinelander's by-products department and vice president of the yeast company. This remains the only torula yeast plant on the North American continent, excepting the pilot plant at Appleton where the League does experimental work.

Soon after we bought the yeast company, we decided to go ahead with designing and building an evaporator plant. Evaporating sulfite liquor had been practically impossible, but after World War II Swedish engineers disclosed a new type evaporator that would do the trick. The League got a small pilot plant unit almost four years ago and learned how to run it. Our company's new plant would have



FOLKE BECKER (left), is turning switch turning waste liquor from Rhinelander River into new plant. This is closeup of larger panel shown elsewhere. BENTON R. CANCELL, Vice President in charge of Operations, is at right. Honeywell and Taylor instruments control process.

taken longer and we would be more doubtful of its success without what we learned from the League.

Sulfite liquor is chemically very active, and requires stainless steel equipment. Not ordinary stainless but a particular variety called 316 stainless, which also is very useful in jet engines and guided missiles. Because of defense demand for 316 stainless, two years elapsed from the time we placed our order for evaporators until we got our first carload. The rest came along soon afterward, and that is what we are starting up today. I hope it works at least while you are watching.

The evaporator plant has cost us more than \$400,000. Along with our yeast plant, this is an investment totalling almost \$1,000,000. It is primarily to reduce sulfite pollution in the Wisconsin River.

Let me point out one fact that is significant apropos any time table for pollution abatement in the sulfite industry of Wisconsin and elsewhere. The yeast plant already was here as an experimental unit built by a dozen mills. When we bought it in 1950 we saw it needed an evaporator plant to make it more effective and economical to run and we ordered this almost immediately. It was about eight months later that the state pollution authorities ordered us and a number of other sulfite mills on the Wisconsin River to complete construction and have a process operating by the spring of 1953.

We now are finished up several months ahead of the deadline. No other mill on the Wisconsin River could conceivably be ready by then, because they did not have our headstart. Please remember there was no legal obligation on any mill to proceed until officially ordered, and the reason we beat the gun was largely our good luck in having the yeast plant already here.

So, when other Wisconsin sulfite mills are forced to ask the state for additional time, don't think they are stalling. Korea made that deadline impossible. Defense industry gets first claim on all of the 316 stainless it needs, and that is as it should be.

To get back to our company's program, let me remind you that these plants are costly to own and operate. The by-products derived from thus treating sulfite liquor are merely a necessary step in the process. Once they are made we have to get rid of them. They are bulky, and like

most organic materials they would eventually spoil. We sell them to get them off the premises, and the price we get helps defray our cost of operating these expensive anti-pollution processes.

The conservation of woodland and water resources now attained at our sulfite mill is still not complete in the strictly technical sense, but it is just about the best job that is possible in the present state of the art. To the best of our knowledge, this standard has never before been reached in this country or abroad.

Because it has not been done previously, it must still be classed as experimental. We do not absolutely know that it will do what we expect of it. Obviously we hope it will meet our expectations, otherwise we would not have made so large an investment in it.

We are collecting all of the liquor which contains a concentration of wood solids high enough to permit further processing—more than two-thirds of the total solids. We will convert practically all of these to by-products and thus keep them out of the river.

The fraction of our solids that will pass into the stream in dilute wash water represents an amount which we believe the Wisconsin River can absorb and regenerate, even in summer, without harm to game fish.

Details of Operation of Rosenblad Evaporators

Consolidated Water Power & Paper Co. in early December needed only one more piece of stainless equipment to complete its multiple effect Conkey Flat Plate Rosenblad switching evaporator at Appleton, Wis., and Northern Mills in Green Bay was also nearing completion of its installation. The triple effect unit at Rhinelander was first multiple effect switching unit in America. An earlier single effect switching unit at Crown Zellerbach in Lebanon, Ore., where ammonia base is used in the sulfite cooking cycle, was to be doubled in size in February, with a second effect. There is also a single effect switching unit at Puget Pulp in Bellingham, Wash., for its Lignosol plant. General American Transportation Corp. built this equipment.

At Rhinelander, 65 to 70% of spent liquor, averaging 8½% solids concentration, are collected for the yeast plant and

the new products, the remainder being too dilute and costly to process. Longer cooks, and other changes, to increase sulfite pulp quality has decreased output in five years from 115 to 90 tons daily.

Stainless pipe 600 ft. long carries spent liquor to wooden tank storage at the yeast plant. Clarified desugared liquor at about 7% is pumped 600 ft. to the new evaporating plant. Main GATX equipment are three natural circulation 316 extra low carbon stainless steel heaters of 1,550 sq. ft. each and four vapor bodies, transfer and condensate points and intermediate pipe, all 316 stainless. It is designed to operate between 25 p.s.i.g. and 26 in. of vacuum and has multijet thermocompressors to use energy in a 125 p.s.i.g. feed stream without superheating. Control board operates all steps, except a few periodic operations done manually. Design evaporation is 33,000 lbs. water per hr. attaining 3.18 lbs. per lb. of steam. Evaporation of 6 lbs. water produces 1 lb. 50% concentrate.

This is stored in two 10,000 gal. tanks with tile work by Chemical Linings, Inc. About 250 F. condensate heat from heaters is used in American Heat Reclaiming inter-heater and preheater before discharge. Vapors from last effect are condensed and in the pulp mill. From tile tanks concentrate may be pumped to two 220 sq. ft. twin drum dryers by Bufllovak Equipment Div., Blaw-Knox Co. for production of 94% solids.

Dried solids fall off drums and Chain Belt Co. provided screw conveyor and elevators to impact mills, and from there, in powder form, the solids are elevated to storage bin. From here it flows to a St. Regis Sales Corp. screw type bag filling machine and paper bags, of course, are used. Instead of going to dryers, the 50% concentrate can go to dock for loading cars or tank trucks, or to boilerhouse for fuel. Besides GATX, piping was by Felker Bros. Mfg. Co. of Wisconsin and Wisconsin River Supply, structural steel was by Wisconsin Bridge & Iron, spray burners by Babcock & Wilcox, pumps by Goulds, Worthington and Blackmer.

Kyle Ward Jr. Heads A. C. Cellulose Division

An Institute of Paper Chemistry man, Dr. Kyle Ward, Jr., has been elected chairman of the American Chemical society's division of cellulose chemistry for 1953. Dr. Ward is the present head of the cellulose group at the Institute.

He succeeds Dr. Joseph L. McCarthy, head of the department of chemistry and chemical engineering at the University of Washington at Seattle.

Dr. Ward is credited with synthesizing the first member of the nitrogen mustard group, chemical agents now used in the treatment of certain types of cancer. He also has done pioneer research on naval stores and was formerly with Hercules Powder Co.

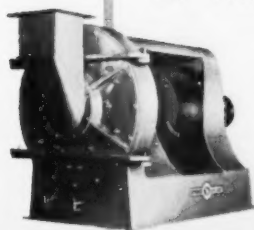
for experimental

PULPING AND FIBER

studies—

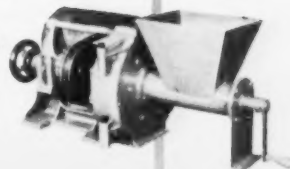
2 S-W REFINERS

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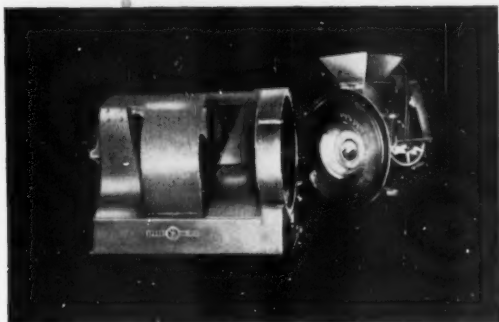


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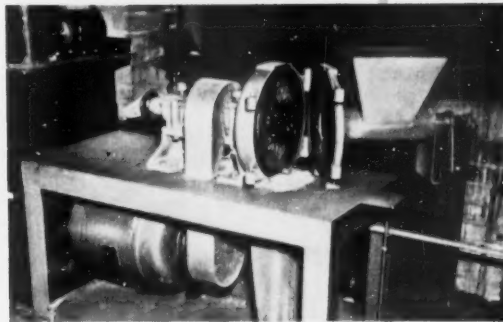
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NINE MILLS MASKING ODORS

REPORTS OF RESULTS HIGHLIGHT KRAFT CONFERENCE

Efforts to control kraft mill odors by suppression or masking, liquid sulfur use in pulp mills, and the joint waste liquor pilot plant at Macon, Ga., provided highlights for TAPPI's Alkaline Pulping Conference in Mobile, Ala., Nov. 12-13. A third day was devoted to tours of International Paper and Hollingsworth & Whitney mills.

Robert R. Fuller, Gulf States Paper Corp., was general chairman. A. W. Pesch, International Paper, and Robert B. Reynolds, Hollingsworth & Whitney, were local co-chairmen. Ion Walker, I.P., was local committee secretary.

International contributed the first paper through J. E. Vassie, Camden, Ark., who said the first problem in pumping sulfur is solidification in valves and other small clearance points. In three years no corrosion was experienced with a steam jacketed liquefying unit but another mill with steam coil in plain tank suffered corrosion from escaping steam. A timer switch is used to pump sulfur every five minutes. Economy results from liquid sulfur as when lump sulfur is shoveled in some is lost to the grate. Labor saved amounts to 12 man hours daily. When down, sulfur drains back to the tank.

FOUR FOR I. P. AND TWO FOR H. & W.

I. P. SOUTHERN KRAFT and H & W Mills and Men were hosts to Mobile Alkaline Pulping Conference. Here are four IP men who took part or acted as hosts, and two H & W men who did likewise. Top 1 to 4: A. W. PESCH, Chief Chemical Engineer for all Southern IP mills, a native Wisconsinite who started with IP at Marinette;

MOBILE PARTICIPANTS, top row 1 to 4: R. E. FULLER, Gulf States, Chairman of Alkaline Committee; FRED BISHOP, Southland Paper Mills, Program Chairman; OTTO DE LORENZI, Combustion Engineering, who gave paper. Below 1 to 4: JOHN J. GOSS, Gaylord, Recovery Operations Moderator; BEN F. MAY, Gulf States, and B. K. TREMAINE, Dupont, who discussed masking kraft odors.

Tests of relationships of sulfidity to strength of bleached sulfate pulp were given by M. B. Pineo, Brunswick Pulp & Paper, who said many operators thought detrimental conditions existed below 28%. Starting with 17%, tests showed good increases in strength to 20% at which point leveling off occurred. Strength is lost rapidly for bleached kraft when sulfidity passes 15% going down.

Panel discussion of flue gases and black liquor evaporation brought emphasis on need of servicing Cascade installations before they plug up solid and of keeping the pH high. Referring to Scandinavian developments it was noted they have high fuel and low horsepower costs; the reverse of conditions here. Panel members included W. J. Darmstadt, Babcock & Wilcox; C. L. Durkee, D. J. Murray Mfg. Co., Frank W. Hochmuth, Combustion Engi-

J. E. VASSIE, from IP's Camden, Ark., Mill; L. L. LAPEYROUSE, Manager of IP's Mobile Mill; CHARLES O. BINGHAM, Agent for IP Mobile Mill. Below 1 to 4: ED P. WOOD, Manager of H & W Mobile Mill, formerly on West Coast and in India, and ROBERT B. REYNOLDS of H & W, who moderated sulfur and soda sessions.



neering; and C. L. Tomlinson, Howard Smith Paper Mills, Cornwall, Ont. Advancements in recovery furnace design were reported by Messrs. Hochmuth and Darmstadt.

H. O. Teeple, of International Nickel Co., discussed corrosion, suggesting steps for amelioration of conditions.

In reviewing liquor cycle operation, J. L. Brown, Brunswick Pulp, stressed good physical relationship of equipment to control labor cost by minimizing working area, centralizing evaporator and recovery instrumentation to a control board for a single operator, and good personnel training. Unanticipated shipping delay of replacements, he said, can elevate production costs.

Masking Odors in Nine Mills

Experiments in masking pulp mill odors were described by Walter C. Meuly and B. K. Tremaire, of Dupont. Practical aspects were recounted by Ben F. May, of Gulf States Paper. Improved chimney design and use of chlorine dioxide were other control measures discussed. The Weyerhaeuser research was discussed also (see paper by Messrs. Bialkowski and DeHaas in December issue of PULP & PAPER). The task of a masking odor was measured by relating proportions to various sources. This was followed by mill tests with these results:

Source	Share of Odor	Masking
Digester relief	15% to 25%	some
Digester blow	25%	good
Multiple effect evaps	40%	fair
Cascade evaps.	30%	fair

Nine Southern mills are involved in masking tests. Capital investment of a manually controlled masking installation is estimated at from 12¢ to 24¢ per ton of pulp capacity.

Studies of stored pulpwood were reviewed by Ralph M. Lindgren, Forest Products Laboratories, Madison, Wis., which were conducted with both peeled and unpeeled wood in winter and summer. Details may be obtained by writing to the





THESE MEN MADE NEWS in the industry (from l to r):

WILLARD E. HAHN, Vice Pres. of St. Regis, who became Resident Gen. Mgr. of its big Kraft Center for pulp, paper and bag making at Pensacola, Fla., and continues as Prod. Mgr. for all St. Regis bag plant in U.S. and Puerto Rico. Geo. Snyder, who was Mgr. for pulp and paper at the Center, retires in July, continues as Consultant. Mr. Hahn, born in West Virginia, had been a top bag producer for I.P., Union Bag, Arkett & Smith before joining St. Regis in 1944. **MARVIN W. SWAIM**, First Vice Pres., Alton Box Board Co., who was re-elected President of National Paperboard Association. He made name and fame in shoe manufacturing in St. Louis before turning to paperboard. His response stressed value of good men over materials and machinery in industry.

MOBILE (Cont. from p. 66)

Laboratory.

This was followed by a review of turbulent suspension burning of wood refuse by Otto de Lorenzi, of Combustion Engineering-Superheater, Inc.

D. C. Gillespie, The Dorr Co., presented a digested review of causticizing practices in 29-southeastern mills.

A. W. Pesch, chief chemical engineer and one of the old-timers of Southern Kraft Div., International Paper Co., comparing early practices of dumping materials now thriftily saved by Southern mills. He referred to the successful jointly financed effluent pilot plant at Macon, Ga., as promising much in freeing mills from stream problems.

Champion Fishermen

Grand prize winner of Lockport Felt's 1952 fishing contest, for which he got \$100 bond and outboard motor, was Harry Bare, Federal Paper Board, Reading, Pa., who caught a 16½ lb. large mouth bass in the Susquehanna.

Other first place winners: Joseph Smith, Westvaco, Covington, West Va.; Leo Wilson, Mead Corp., Sylva, N. C.; Vernon Jackson, Container Corp., Carthage, Ind.; Andrew Bell, Morris Paper, Morris, Ill.; Charles Schultz and Geo. Wonder, Rhineland (Wis.) Paper; Chester Miller and Geo. Hardina, Consolidated, Wis. Rapids; Wm. E. Gardner, Gardner Board, Dayton, O.; Eman Smetak, Flambeau, Park Falls, Wis.; Martin Ponzio, Kimberly-Clark, Iron Mt., Mich.; Geo. Bergerson, Scott, Everett, Wash.; Jack Llama, Certain-teed, Niagara Falls; LeRoy Bargo, Rex Paper, Kalamazoo; Norbert Soletake, Hoberg, Green Bay, Wis.



JOHN STEVENS, JR., who became President last April of Marathon Corp., succeeding Clark Everett, Chairman, moves his headquarters from Rothschild to Menasha, Wis., and buys home on Lake Road, Lake Winnebago.

HOWARD W. LAYMON, appointed to newly created position of Public Relations Director for Chillicothe, O., Division of The Mead Corp. Succeeding him as Div. Technical Director, position he held since 1930, is Herbert Smith, his Asst. since last January, according to Div. Mgr. O. B. Mason. Mr. Laymon started with Mead in 1912, graduated from Ohio State in 1916, returning to Mead. He recently was honored with 33rd Masonic degree.

JAMES F. STEVENSON, new Manager of Wheelwright Div., The Mead Corp., Leominster, Mass.



AT MOBILE l to r: **D. G. MOON**, J. E. Sirrine Co.; **E. A. HARPER** and **JOE RICHARDSON**, from Hudson Pulp & Paper, Palatka, Fla.

BACK IN MEXICO—

STANLEY WILKES, who had retired on a Vermont farm, has returned to Mexico City as Mill Superintendent of Sonoco de Mexico S.A., new mill built by Sonoco Products of Hartsville, S.C. Mr. Wilkes started in Masinee in 1917, was many years in South and Supt. at Atenquique, Mexico.



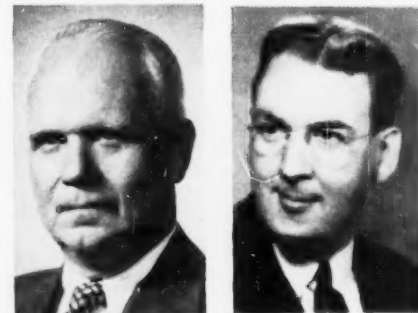
MOBILE MEETING Round Table on Black Liquor Evaporation and Recovery Boiler Gases, l to r: **WM. J. DARMSTADT**, Babcock & Wilcox; **CLARENCE L. DURKEE**, D. J. Murray Mfg.; **FRANK W. HOCHMUTH**, Combustion Engineering-Superheater, and **GEORGE H. TOMLINSON II**, Research Director at Howard Smith Paper Mills, Cornwall, Ontario, and son of Vice Pres. G. H. Tomlinson, who both have pioneered burning and recovery processes at that mill.

Had been Corp. Asst. Director of Tech. Service and previously Research and Development Engineer.

O. C. CHRISTIANSEN, another Mead promotion—became Paper Mill Supt., at Escanaba, Mich., succeeding Stanley Leishman, who went to Provincial in Thorold, Ont., as Gen. Supt. Mr. Christiansen graduated from Minnesota in 1947.

ANDREW J. LUETTGEN, promoted to Gen. Supt., from Mill Supt. at P. H. Glatfelter Co., Spring Grove, Pa., according to Exec. Vice Pres. P. H. Glatfelter III. Mr. Luetgen, came from Germany where he attended Darmstadt Tech. University. In U. S. since 1929, was with Continental and I.P., joined Glatfelter in '32. Noble & Wood Agitator recent issue hailed him "Papermaker of the Month."

BIRD MEN OVER U.S.A.

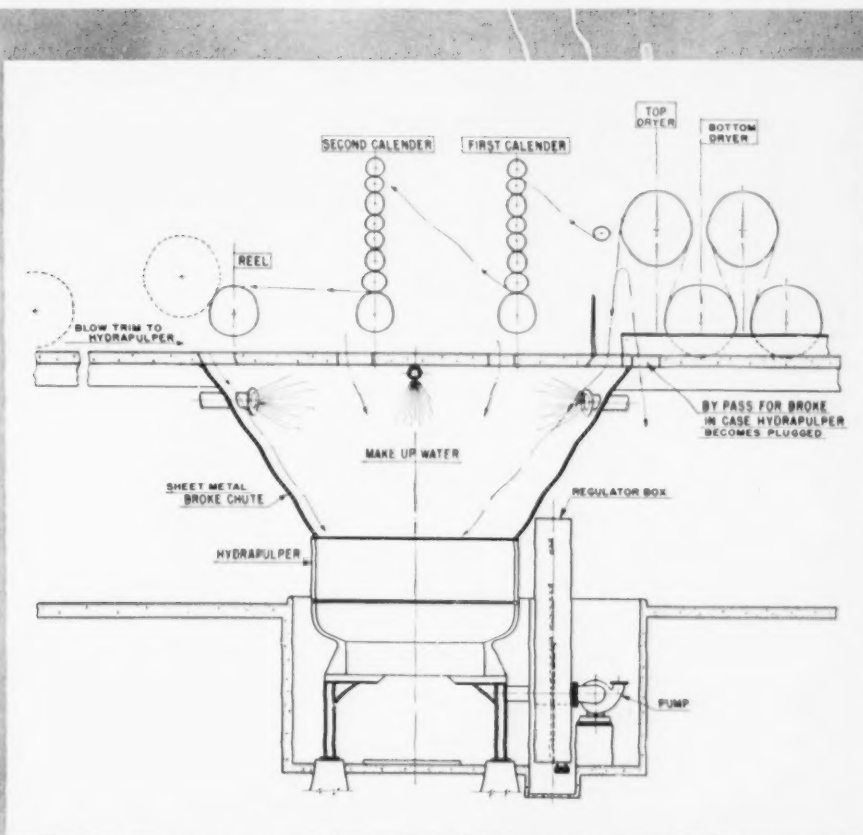


BLANCHARD D. (NICK) WARREN (above left), Pacific Coast Mgr. for Bird Machine since March, moved last month into his new offices in Portland Trust Bldg., Portland, Ore., and has moved wife and three children into new home on Lake Oswego, south of Portland. He was former Asst. Sales Mgr. for Bird. **HOWARD G. MAYSHAW** (above right) has been promoted to Pulp and Paper Division for Midwest and South, but office remains at 603 Main St., Evanston, Ill. He has been with Bird 23 years, many spent in Midwest.

FRED HOLMES (lower left), former Chief Engineer with Smith Paper Co. (now Schweitzer) is established in LaPorte, Ind., to cover Midwest as Sales Engineer under Mr. Mayshaw. He graduated from Worcester Polytech and also was formerly with Shawinigan Water & Power.

ROBERT MILLER (lower right), new Sales Engineer for South, under Mr. Mayshaw, will headquarter at Evanston. There also are Bird Service Engineers for these territories and Sven Fahlgren will continue to cover all U.S. in services in connection with certain equipment.





Broke Handling at its Best

How does this broke handling arrangement strike you?

1. Hydrapulper* below and between the last dryer and first calender.
2. Drop broke direct from dryer.
3. Drop broke direct from calenders.
4. Blow broke from finishing thru tube.

ADVANTAGES—no trucking—no dragging of broke thru dirt and oil. No confusion on machine room floor. Everything close to 100% automatic.

Special broke Hydrapulpers of any required capacity, with or without special flared top or other special broke handling features.

Have us identify several such broke handling installations for your inspection.

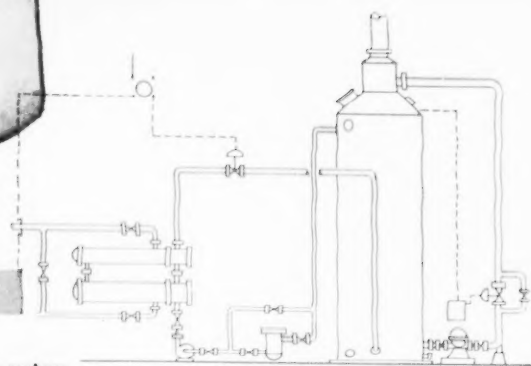
*Trade Mark

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Riegel **DOUBLES** in economy

with 2 FOSTER WHEELER SYSTEMS



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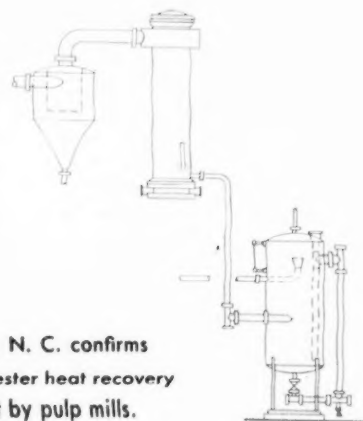
For heating clean pulp wash water, Riegel chose the low-cost, high-heat-recovering liquid-to-liquid system with scale-resistant, non-corroding tubes. The system is capable of heating 755 gpm of clean water from 75 to 160 F. A feature of this system is the non-plugging condenser which allows clear blow-through without back pressure.

2. TURPENTINE RECOVERY

For the added revenue in recovering 2 to 4 gallons of turpentine from each ton of pulp and the economy of fuel saved through heat recovery in the condenser, they chose an FW system consisting of a cyclone separator, condenser and gravity separator.

This new installation by Riegel-Carolina Corporation at Acme, N. C. confirms once again not only the sound economics of turpentine and digester heat recovery but also the continued acceptance of Foster Wheeler equipment by pulp mills.

Perhaps our experience in heat and turpentine recovery can be of assistance to you. If so information describing these Foster Wheeler systems will gladly be sent on request.



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it lasts longer..
it gives you better service!*

Accurate rivet, forged from copper bearing steel, resists rust. Milled flat at one end and locks in steel side bars.

Large diameter rivets reduce chance of rivet breakage caused by momentary overloads and corrosion fatigue.

Side bar is accurately blanked from high carbon steel. Chain has higher ultimate strength than ordinary H-Type Chain.

Wide sliding shoes on both edges reduce wear on the chain and trough.

Heavy wearing shoes are sloped to avoid catching and possible damage to conveyor.

Front faces of barrels designed to act as scrapers. Material does not pack in the trough.

Grease chambers in barrels are factory filled. This prevents "freezing" of chain joints, reduces wear, requires little attention.

NEW REX* COMBINATION-TYPE REFUSE CHAIN HAS OUTSTANDING ADVANTAGES

Here's the finest chain for conveying sawdust, refuse, wood chips and similar material.

Rex Combination-Type Mill Chain is designed to handle assignments that prove too tough for ordinary H-Type Chain.

Check the captions. Each one points out an important reason why this new chain will give you longer service . . . better service . . . and lower overall costs. What's more, it can easily replace corresponding H-Type Chain, since it operates efficiently over the same sprockets and in the same trough.

For all the facts on this new chain, write to Chain Belt Co., 4691 W. Greenfield Ave., Milwaukee 1, Wisconsin.

OTHER REX FAVORITES IN THE PULP AND PAPER MILLS



Rex H-Type Chain



Rex Steel Chabelco* Chain



Rex Log Haul Chain



Rex Durobar* Combination Chain



Baldwin-Rex* Roller Chain

*T.M. Reg. U.S. Pat. Off.



PULP MILL CHAINS

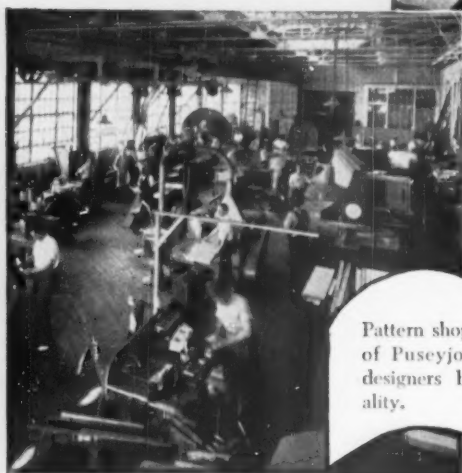
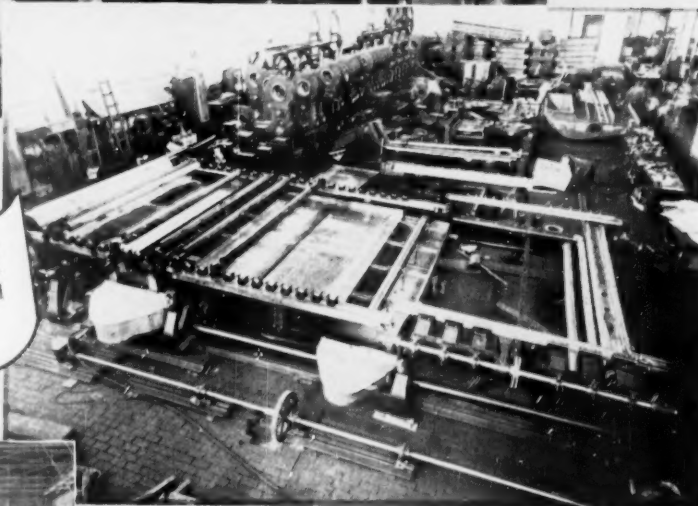
Puseyjones at Work . . .



Cutting winding wire grooves in Stream-Flow Cylinder Mould.



Erecting shop showing partially erected Fourdrinier Part for high-speed Puseyjones Machine.



Pattern shop where plans of Puseyjones machine designers become a reality.

Puseyjones experience and facilities are freely offered to any manufacturer who wants to increase production and improve quality. Whether you are interested in modernizing your present equipment or installing a complete new machine — Fourdrinier, Cylinder, Yankee, or a combination of any of these types — call or write us today.

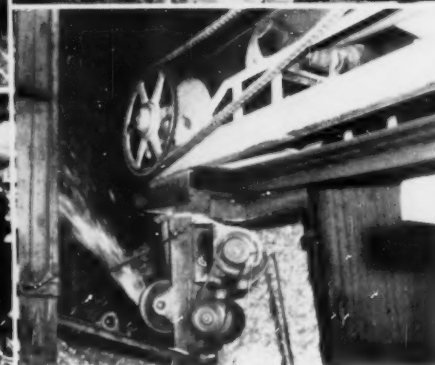
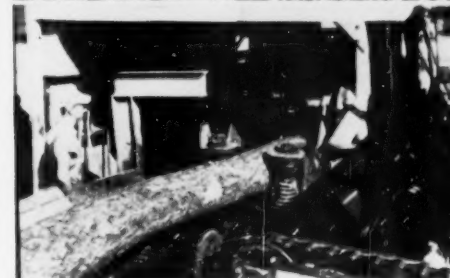
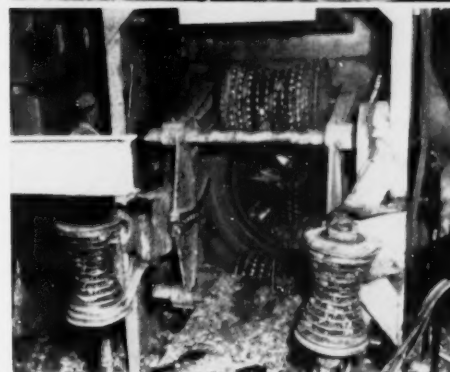
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South's New Chip Source

ARKANSAS SAWMILL SERVES CROSSETT



CONVEYOR SERVING ANDERSON BARKER (top left) is supported by steel I-beams on concrete footings. At left, the activated spools carry logs to the bull chain proper. Logs in rear are going to debarker; in left center, coming from. Log in foreground has by passed barker.

THIS IS WHERE LOG enters Anderson barker (middle left). The rollers hold it firmly in place as it passes through. Inside the maw can be seen the barking tools.

LOG PASSING INTO ANDERSON BARKER (lower left) clamped by the feeding rollers. A good glimpse is provided of the Rex #124 chain used on conveyor.

Production of clean chips for shipment to a paper mill has been successfully demonstrated on a commercial scale by the Southern Lumber Co., Warren, Ark., marking a new era in Southern industry conversion of material formerly lost as wood waste. The demonstration by the Arkansas mill is expected to result in similar installations within the Southern pine producing area.

The pioneering installation at Warren

was put to the test in early 1952 and since that time has been modified to successfully meet the difficult conditions imposed in handling of Southern pine logs. The innovation is directed by W. R. Warner, general manager of Southern Lumber, who enjoys a well earned reputation from the excellently mechanized mill at Warren.

The "Anderson" mechanical log barker at Warren was furnished by the Soderham Machine Mfg. Co., Talladega, Ala., being imported from Sweden along with a vibrating screen and the chipper to which the clean slabs and trimmings are fed. The chips are shipped to Crossett Paper Mills, Crosett, Ark., where they are mixed with its own chips and fed to the digesters.

From initial start-up to June, a 2½-month period, modifications to meet conditions notoriously tougher than experienced in the Scandanavian countries were effected and the unit was then considered to be on a definite production basis. Modifications of parts, primarily to afford greater strength, were effected with the

DEBARKED LOG emerging from the Anderson mechanical debarker at Southern Lumber Co. (top right).

BARKED LOG MOVES on the activated spools (middle right) until it strikes the panel limit switch at the end. Then it is tossed to conveyor on right and returned to the bull chain.

SCREENED CHIPS (lower right) are flung into boxcar outside Warren mill by an adjustable conveyor section. Chips go to Crossett Paper Mills.

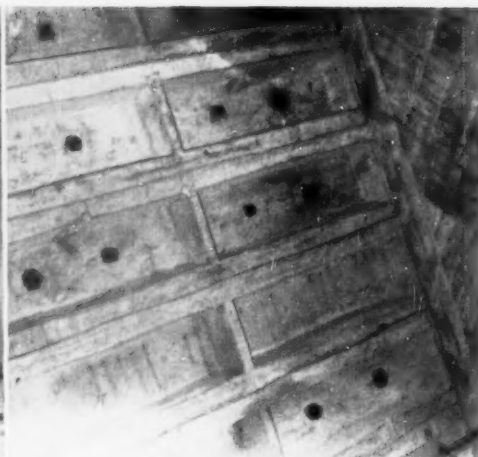
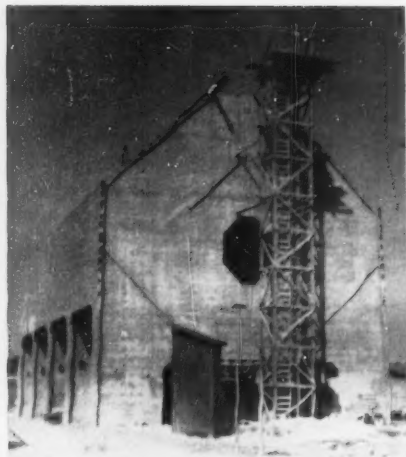


PHOTOGRAPHED ON MEMORABLE OCCASION when barker was started at Warren, Ark. (left to right): Erland Anderson, of Soderhamn, Sweden, inventor of the mechanical barker; W. R. ("Dick") Warner, General Manager of Southern Lumber Co., Warren, Ark.; and, Gus Jacobson, President and Manager of Soderhamn Machine Mfg. Co., Talladega, Ala., subsidiary of Soderhamns Verkstader AB, Soderhamn, Sweden.

cooperation of Continental Gin Co., Birmingham, Ala. Equipment for installations to follow will come from this same company, and from the Soderham shop at Talladega.

The arrangement at Southern Lumber Co. provided an extension of the log chain, and the installation of the washer and cut-off deck saw just behind the location where the American Hoist & Derrick crane places the logs on the conveyor. The deck saw is a 72-inch solid tooth unit driven by an electric motor. Saw and motor are mounted on a small wheeled carriage which is driven forward for log length cutting by a 75# air pressure installation, and withdrawn by the same means. An operator in a booth just beyond the saw also controls the bull chain and the mechanical air trip that picks logs from the chain for the debarker feed conveyor. This conveyor is supported by steel I-beams on concrete foundations. Three #124 Rex chains move logs from bull chain to a set of spool-type activated rollers that feed the debarker.

The log is tightly gripped by pressure rollers as it passes longitudinally through the rotating ring carrying curved debarking tools. These are forced against the log by 100# compressed air from the mill supply line. The tools are curved, their operation being more abrasive than cutting. As each tool encounters an irregularity in the log it may be forced back but as soon as the obstruction passes the position is immediately resumed. The log is discharged onto activated spool type rollers with a large terminal panel serving as a limit switch to activate their being cast off to the dupli-



cate Rex chain installation returning it to the conveyor to the sawmill deck.

A 10-H.P. Allis Chalmers motor is used to drive the conveyors serving the debarker and a 30-H.P. motor drives the mechanism for the debarking arrangement. A recent change effected was installation of cooling air to the debarking tools. The feed and discharge spool conveyor rollers are driven through sprocket and chain. The operating crew includes the debarker operator (and relief man) and one operator for chipper, vibrating screen and car loader.

The mill operates on a 9-hour day five day week with four days on pine and the fifth on hardwoods. When running hardwoods the bull chain is just left open and the debarker and its conveyors do not run. About one percent of pine logs are passed as too rough, and the same percentage are considered inadequately barked.

On pine the mill averages about 100-M bd. ft. of lumber production daily from logs that average about 51 bd. ft. per log.

In the June-September period the debarker-chipper installation (with effi-

ciency greatest toward the end) produced an average $\frac{1}{2}$ cord of chips per M-feet of lumber cut by the mill, this amounting to 3 box cars daily with each car containing from 18 to 20 cords of chips. On logs averaging 40 bd. ft. per log and mill production at 9600 bd. ft. per hour, the debarker has a capacity of 92 linear feet per minute.

All waste from the mill—edgings, trimmings, clean slabs—that is bark free now goes to the chipper. The supply of fuel from planer mill waste and hardwood slabs and trimmings has proven adequate through the spring and summer months.

From the chipper, a belt conveyor takes chips to a vibrating screen, then to an adjustable extension conveyor belt that feeds them into a railroad box car just outside the mill. The cost of installation complete including log conveyor extension, washer and deck saw installation, additional mill room for chipper and screen, waste bark conveyor, debarker and its log conveyor system (with modifications) was about \$105,000. The mill receives \$11.00 per cord (equivalent) f.o.b. sawmill.

Structural changes in the original debarker at Warren were being installed, in November, the results from which were expected to materially reduce down time on the barker and assure continuous operation. (Canadian Sumner Iron Works, Vancouver, B. C., makes and sells this barker in Canada).

Operation at Crossett

Pulping of the first chips produced independently by a sawmill in the South by the Crossett Paper Mills, is viewed by leaders in the Southern industries as serving to perpetuate the supply of wood for both lumber and paper mills.

The chips are received in box cars spotted adjacent to wood preparation department. They are drawn from the car with a 16-inch suction pipe equipped with a 50-H.P. 775 RPM General Electric motor driving a fan without reduction. The pipe has sections that may be added or withdrawn permitting flexibility in the operation. One laborer in the car is used to fork chips toward the suction, keeping a high volume moving. This physical arrangement is primary, subject to modification. A larger fan may be used in time.

CROSSETT'S NEW 120,000 CU. FT. CHIP BIN (45 cooks) at left, and on right is photo showing its ribbed reinforced sections. It was erected by using 24-ft. pre-cast sections, made up adjacent to the site.

The cars contain an average of 19-cords each, or a little better than one digester cook. The chips are slightly smaller than those produced in the mill's chipping installation, but are considered satisfactory. They are fed in with the mill chipper product but samples of the carlots are taken in tightly covered galvanized containers for testing. The pilot test plant reveals that the chips make acceptable pulp.

The most impressive change effected in late 1952 in the wood preparation end of the Crossett mill is the erection of an 120,000 cubic foot capacity concrete chip bin. This capacity equals 45 cooks. The new conveyor arrangement, furnished by Jeffrey Mfg. Co., will permit digester to draw from chipper or from bin; the chippers to serve digester house direct or bin.



MIDWEST NOTES

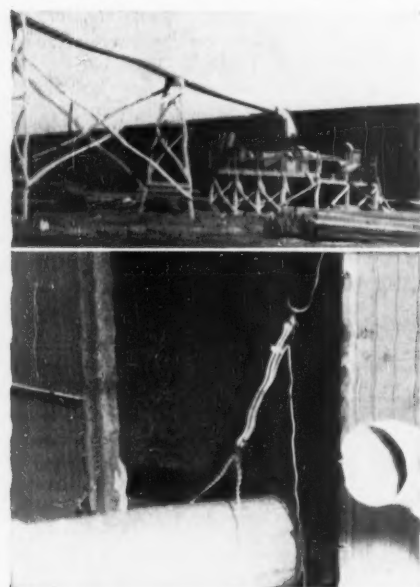


WE REGRET THAT THESE PICTURES were transposed in our December issue, and therefore each was wrongly identified. JOHN R. (JACK) KIMBERLY, the new Executive Vice President of Kimberly-Clark Corp. and grandson of one of the founders, is at the left. On the right is HENRY G. BOON, new Vice President of Industrial and Public Relations for Kimberly-Clark.

C. E. KOHLHEPP, president of Wisconsin Public Service Corp., Milwaukee, has been elected a director of Hoberg Paper Mills according to J. M. Conway, Hoberg president and general manager. Mr. Kohlhepp replaced C. R. Phenicie, a member since 1929. A native of Baltimore, Mr. Kohlhepp has been president of the utility firm since 1948.

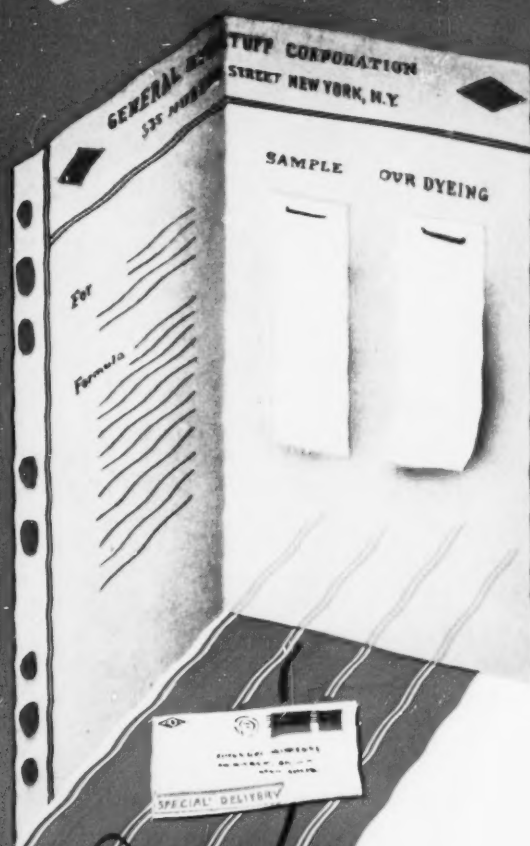
EDGAR E. DICKEY, who is in charge of the radiochemistry laboratory at the Institute of Paper Chemistry recently addressed the Northeast Wisconsin section of the American Chemical society on the subject of radioisotopes in papermaking.

JAMES E. MARTIN, 47, assistant chief engineer of Northern Paper Mills died of a heart attack at his home in Green Bay, Wis., Nov. 23. Mr. Martin was born in Stevens Point, Wis. and was a graduate of U. of Wisconsin. He came to Northern as an engineer in 1929 and was made master mechanic in 1941. He was appointed assistant to chief engineer, H. W. GOCHNAUER.



CHIP UNLOADING STATION (above) at Crossett Paper Mills. On platform are removable pipe sections for extending line as required. There is a cleanout service hatch above the pipe. Lower view—The 16-inch pipe extending inside a car. One man with fork keeps chip removal at high volume.

Quality plus Service

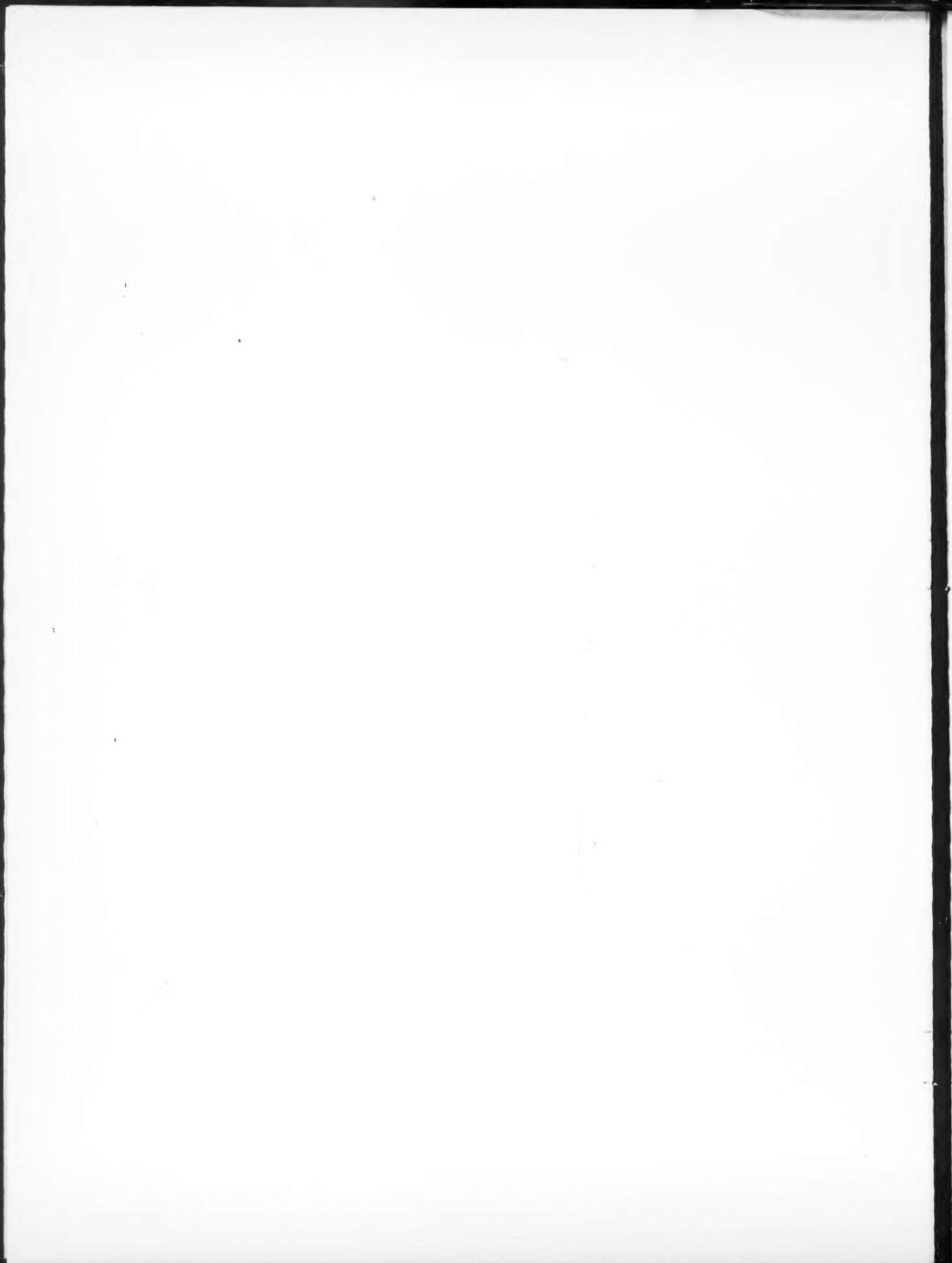


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CLEANER PULP

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Swenson-Nyman Pulp Washers deliver a clean, uniform product because of multi-stage, counter-current washing.

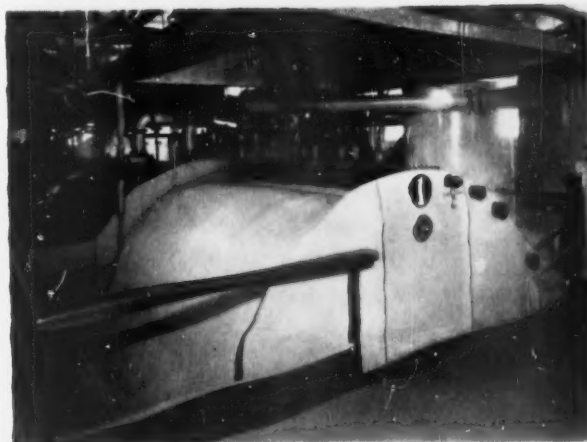
Swenson Engineering, backed by experience with hundreds of pulp washing problems, will assure you of an installation that meets your specific requirements. Write for complete information today!

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THE BEST EQUIPMENT PLUS SOUND ENGINEERING SERVICE





The CLOTHING
is on the Machine...

Making paper or board is watery business. That is why machine tenders don't wear their Sunday clothes on the job.

But take a look at the machine! Fully clothed in wire and wool. Most of the water is removed from the sheet by suction through the wire clothing. The rest is pressed and sucked out through the open spaces between the threads of the felts.

One reason why so many mills prefer Hamilton Felts is because Hamiltons remove so much water in such a little time. Another reason is because Hamilton Felts leave no felt marks to mar the fine finish of the sheets.

Consult the Hamilton Sales Engineer before you change the clothing or the speed of your machines.

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Take-Up and Frame Units
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Here's a proven pulpwood loader to save YOU money and manpower "PULPWOOD YARDSTER"



You'll be amazed at the way the new PULPWOOD YARDSTER loads pulpwood from a truck onto railroad cars. This new tool is compact, mobile and surprisingly low in both initial and maintenance costs. It is specifically designed to save the operator manpower, time and money. New descriptive folder tells all about this machine. Write for your copy today.

- **TRUCK** is unloaded by a split load with a capacity of approximately $1\frac{1}{2}$ to 2 units per load. Approximate maximum capacity is 12,000 lbs. Standard pulpwood truck can be unloaded and the wood loaded onto a railroad car in about six minutes.
- **PHOTO** at right shows PULPWOOD YARDSTER approaching railroad car for unloading operation. Can be locked in rigid operating position. Operator has finger-tip control of load at all times.
- **RAILROAD** car can be bumped by using PULPWOOD YARDSTER Bumping Plate, which is standard equipment. Photo below shows machine in bumping position.



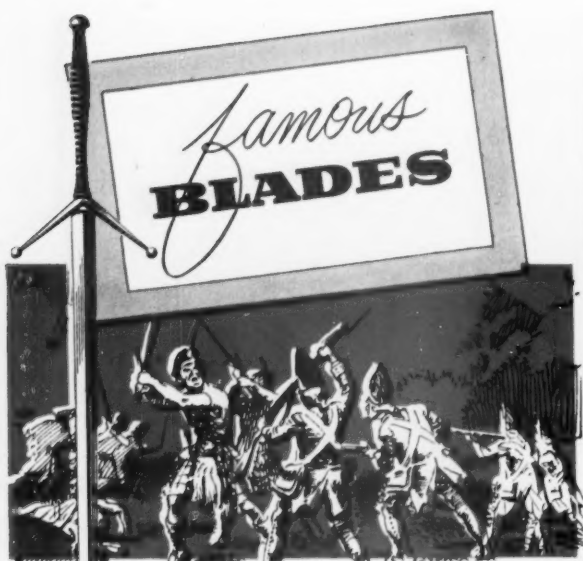
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Please send me complete information
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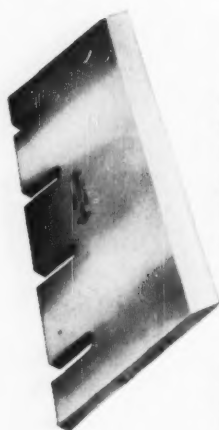
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**do a sturdy job
in chipper lines**



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PULP & PAPER

Pulpwood section

PRODUCTION • MANAGEMENT

APA PLANS 2-DAY PAPER WEEK PROGRAM



Planning APA Paper Week Program—l to r: E. O. EHRHART, Armstrong Forest and APA Pres.; W. S. BROMLEY, APA Exec. Secy.; WM. BAILEY, West Va. P & P Co. Vice Pres. Also on committee are G. W. E. Nicholson, Union Bag, and L. J. Kugelman, I.P.

Tentative program for the 18th annual meeting of the American Pulpwood Association to be held during "Paper Week" in New York City beginning Feb. 17 has been announced by E. O. Ehrhart, Armstrong Forest Co., president of APA. His program committee, headed by G. W. E. Nicholson, Union Bag & Paper Corp., chairman; Wm. Bailey, West Virginia Pulp & Paper Co.; and L. J. Kugelman, International Paper Co.; have been working with the association's executive secretary, W. S. Bromley, in developing the program.

Plans for this year's program call for all meetings in the Waldorf Astoria Hotel.

Registration desks will be open at 8:30 A.M. on the 17th (Tues.) and will operate for registration, distribution of programs and information for the balance of the meeting.

The tentative program developed at the time the January issue of PULP & PAPER went to press is as follows:

Tues., Feb. 17, Morning Session

PULPWOOD PREPARATION:

1. Small Tractor Use in Pulpwood Logging
2. Latest Developments on Portable Chippers
3. How Can Power Saw Service, Maintenance and Performance be improved? (Panel Discussion Program)

Afternoon Session

PULPWOOD HANDLING:

1. Recent Rubber Mounted Pulpwood Loading Devices
2. Use of Crawler and Stationary Pulpwood Loaders
3. "Bob-tail" Truck vs. Semi-Trailer Units (Panel Discussion Program)

Tuesday's discussion will be followed by a reception 6:30 to 7:30 P.M. at the Waldorf followed by the annual dinner.

Wed., Feb. 18, Morning Session

UTILIZING WOODS AND MILL WASTE:

1. Economics of Using Woods Waste
2. Chips from Sawmill Slabs and Edgings
3. Significance of Woods and Mill Waste on Pulpwood Supplies (Panel Discussion Program)

Wednesday's morning session will be followed by the annual APA luncheon with a speaker, to be selected, speaking on "Resources for the Future."

Afternoon Session

MANAGEMENT OF COMPANY FOREST LANDS:

1. Organization of Pulp and Paper Company Forests
2. Administration of Large Scale Silvicultural Projects
3. Correlation of Pulpwood From Company Forests With Mill Requirements (Panel Discussion Program)

Since Paper Week activities run through the full week in New York, many APA men are expected to take in other programs which do not conflict.

CRITIC OF CONVENTIONAL FORESTRY IDEAS

More than 600 attended the first joint meeting of the Canadian Institute of Forestry and Society of American Foresters in Montreal, Nov. 17-20. They represented every Canadian province but one, and every state in the U. S. but six, and included men from all over the world.

"Trends in North American Forestry" was the theme. Throughout the discussions ran the undercurrent of thought that North America has sufficient forest resources for any foreseeable demand provided there is proper management utilization.

Long-time management is the joint problem of the two associations, George L. Drake, head of SAF and vice president of Simpson Logging Co., and K. G. Fensom, president of CIF and superintendent of the Vancouver (B.C.) Forest Products Laboratory, told PULP & PAPER. Mr. Drake pointed to great advances made over the past years, increasing employment of foresters and of sound forestry practices. After a visit to Sweden, he feels that in



ALBERT W. BENTLEY (left), Chief Woodlands Consultant for Bowater Southern Paper Corp. in Tennessee, keynote speaker at the Montreal meeting, is shown here with son, ALBERT ROSS BENTLEY, who is a forester working on the Tennessee project. Mr. Bentley Sr. lives at Victoria, B.C. and he was former Woodlands Mgr. of Bowater in Newfoundland.

West Coast the industries are a long way from realizing their potentials.

Bentley's Keynote

Theme was set by A. W. Bentley, consulting forester, Victoria, B.C., avowed disciple of the late Dr. Bernhard E. Fernow, and a forester for several pulp and paper companies, including 25 years with Bowater's, now serving Bowater's Southern Paper Corp. in Tennessee.

Mr. Bentley's emphatic presentation electrified the meeting and stirred controversial discussion.

"The forests of North America," he said, "have supplied all our needs for these many years and will supply in still

25 years the U. S. industry has equaled that country in forestry practices which took hundreds of years to develop.

Mr. Fensom, in an interview, said that he can see no end to the advancement of the forest industries. He said that on the



THE FIRST JOINT MEETING of two great forestry associations of the United States and Canada brought more than 600 persons to the Mt. Royal hotel in Montreal. Among those participating were distinguished foresters from both countries: (l' to r) P. A. HERBERT, Director of Conservation at Michigan State College; M. R. WILSON, Woodlands Manager for Canadian In-

ternational Paper Co. at Grenville, P.Q.; W. A. E. PEPLER, Vice President of CIF acted as General Chairman for the joint meeting; GEORGE L. DRAKE, President of SAF and Vice President of Simpson Logging Co.; ROCK DELISLE, Director of Forestry Extension Bureau of Lands and Forests Department for province of Quebec; and W. B. DeVALL, head of the Department of Forestry at Alabama Polytechnic Institute.



OTHERS AT THE MEETING in Montreal were: (l to r) J. L. VAN CAMP, of Canadian Forestry Assn. and Chairman of joint meeting program committee; R. E. McARDLE, chief of the U. S. Forest Service (exclusive interview with Mr. McArdle by PULP & PAPER is on these pages); R. G. UNGER, New York State College of For-

estry, who was Chairman of session on public relations; W. A. DELAHEY, of Toronto, presented Canadian Forestry Assn. annual award; K. G. FENSOM, President of CIF and Superintendent of the Vancouver Forest Products Laboratory and STUART MOIR, of the Western Forestry and Conservation Assn.

greater quantity and variety. It is sheer bunk that there will be a shortage of wood. Actual production of wood in the U.S. and Canada is larger than it was 50 years ago, and the income from forests has increased and will continue to do so."

Bentley remarks that stirred discussion:

On government activity: "Some government forest services are loaded down with all kinds of extraneous activities, such as park management for recreation and wildlife management. Not connected with forestry in any way, these time-consuming nuisances distract much effort from real job of getting forests into better production."

On fire protection: "Forty years ago foresters believed fire protection was their most important activity. It is not the practice of forestry any more than fire insurance on a home is architecture. . . . Fire protection is a service and activity well suited to government forest services."

On resource surveys: "Once compilation is completed the (U.S.) Forest Service carries out evaluation of results. This is where there is a large measure of suspicion and disagreement. Information acquired is far from complete. Evaluation on young growth possibilities has been shown up many times as ridiculously low. The steady improvement in forest practice and utilization uses of new species . . . continually change the inventory situation. Forests of North America have continued to grow and produce wood after cutting, despite the fact that they have been mathematically depleted by inventory surveys."

On science: "Like medicine, the prac-

tice of forestry is largely a matter of experience and not of science. The idea of an inexperienced civil servant making and enforcing cutting rules from a book is too absurd for words."

On management: "The progress of forest management is directly associated with the development of the paper industry and the decline of the lumber industry. Real progress has been made (in Canada) in getting more forest under permanent management. The outstanding example is the forest management license in British Columbia."

On logging: "Lumber operations have improved but those furnishing pulp logs have reduced forest waste about 80%."

On pulp and paper: "Many (foresters) still think that the ultimate in forest management is to grow good sawtimber and use worthless material for pulpwood. For the pulp and paper industry foresters have only one yardstick to measure their success: That is the cost of wood per ton of pulp or paper sold. This is made up of two factors, the cost of wood per unit of volume delivered at the plant, and the yield of pulp per unit volume. Fast growing low density wood makes expensive paper. The logging and transportation costs which amount to 80% of the cost of wood are the same regardless of quality. The other 20% represents the cost of growing wood up to the time it is cut. High density wood costs no more for 80% of the expense, but has a direct effect on reducing the cost of a ton of paper. Foresters must use a system that will give sufficient stems to crowd the stand, slow diameter growth, increase height growth, and increase wood

density."

In view of the interest in remarks of Mr. Bentley, PULP & PAPER interviewed representatives at the meeting for their opinions or criticisms. These comments follow:

Prof. P. A. Herbert, director of conservation, Michigan State College: "Mr. Bentley gives the impression foresters must fight conservationists. Conservation is the wise use of all natural resources."

"Some forests can best be used for production of wood for pulp and sawlogs, while others should be set aside for parks and recreation. We live to be healthy and happy, as well as to make money to live. I agree with Mr. Bentley on fire protection, and that past predictions of resources have failed to attach proper credit to new species use, regeneration, etc."

John B. Matthews, Abitibi Power & Paper Co.: "I disagree with Mr. Bentley on his predictions of the dim future of the lumber industry. However, it may be a mistake to grow volume without density for wood fiber bulk."

Stuart Moir, Western Forestry & Conservation Assn.: "Through integration of forest industries we will acquire better utilization of all forest resources—and lumber, plywood, hardboard, pulp and paper will all have a part."

M. R. Wilson, Canadian International Paper Co.: "Economic pressures are realistic, and our company encourages forest land owners to sell trees where they can make the most money. Economic picture is changing, and utilization follows prices."

Rock Delisle, director of Forestry Extension Bureau, Lands and Forests Department, Province of Quebec: "The job of forestry is an overall one—and in some instances water power, water supply, parks and recreation are more important than the cutting of wood."

Timber Resource Review

In a session on public policy regarding forest lands, Edward C. Crafts, U. S. Forest Service, told about the recent initiation of a comprehensive review of the nation's timber resources, to establish timber inventory, rates of growth and drain, present and prospective requirements, status of protection, planting, technical assistance and other types of forestry programs. The review is expected to be complete in two years, and is to be conducted at 8- and 10-year intervals.

Terrill Dryden Stevens, of Michigan State College, read a resolution adopted by the Council of Forestry School Executives which met in Syracuse, N.Y., Nov. 15, which resolved: (1) The council urges completion of the Forest Survey at the earliest possible date. (2) The council feels that the Timber Resources Review should be postponed until 1955 in order to assure sufficient time for a thorough review of the entire project. This action would continue the reappraisal on a 10-year basis.

BILL McDONALD, sales and field engineer for Homelite Corp. power saws recently opened headquarters at 1356 Normandy Drive, Atlanta, Ga. He formerly represented the company at Raleigh, N.C.



• The new LORAIN RAKE has a maximum reach of 31 feet and is designed with a horizontal pulling action toward the machine to "rake" pulpwood from rack cars.

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FOR
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NOW a NEW **LORAIN RAKE** UNLOADS CARS IN RECORD TIME

Here is the newest time-saving, money-saving tool for unloading pulpwood rack cars! It's the LORAIN RAKE! The RAKE will unload a car in from 10 to 12 minutes — or as fast as the flume or conveyor can take the logs away. The RAKE front end attachment is available for 3/4 yard Lorain TL-25's on crawlers or rubber. There is no pulpwood unloading device like it on the market. Advantages over previous dragline bucket or back-filler board methods are many.

The RAKE provides a very positive and precise control of spotting the board with complete visibility of the operation at all times.

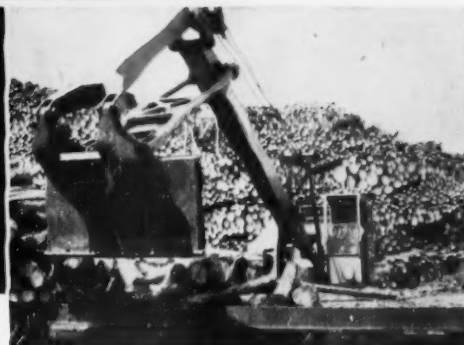
Cars are completely cleaned — quickly and easily.

There is less spillage of pulpwood, less damage to cars, less manual clean-up required.

You will surely want all the facts on the new, revolutionary Lorain RAKE. See your Thew-Lorain Distributor — or write direct to . . .

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The LORAIN RAKE is equipped with a 5 ft. x 3 ft. board which is operated so the board maintains a semi-vertical position at all angles of the boom and stick.



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Complete Bantam crane unit with 25' boom, wood grapple, Morin tag-line and additional CWT—less truck and mounting charge—FOB Waverly, Iowa. Other attachments optional at extra cost. All prices subject to change without notice.

Here is a low-cost, light-weight Bantam truck crane that drives anywhere around your property at truck speeds... handles pulpwood or saw logs at fast pace, with tongs, sling or wood grapple... has 8 interchangeable attachments for ditching, clearing and roadwork. Bantam mobility, combined with low operating and maintenance costs, permits profitable logging of small timber tracts... enables you to put your "stockpiles on wheels" for faster production, lower net costs. Mail coupon below for full details, free Bantam demonstration.

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PULP & PAPER INTERVIEWS

CHIEF FORESTER OF UNITED STATES

Some ideas on U. S. Forest Service policies in the coming years were provided for PULP & PAPER in an exclusive interview with R. E. McArdle, who has been chief of the Service since middle 1952, at the joint U.S.-Canadian Meeting in Montreal. In answer to questions, Mr. McArdle replied to critics of the Service who have accused it of high-handed administration, and refusal to cooperate with industry and state at local levels.

Mr. McArdle told PULP & PAPER that it is his ambition to bring about a better understanding between the Forest Service and industry during his tenure. His first six months as head of the Service, he said, have been spent in trying to accomplish closer cooperation between state and federal agencies in forestry, and with private industry, and he believes with significant success. Generally speaking, he has tried to leave the work with private landowners, particularly in fire control, to state agencies at local levels.

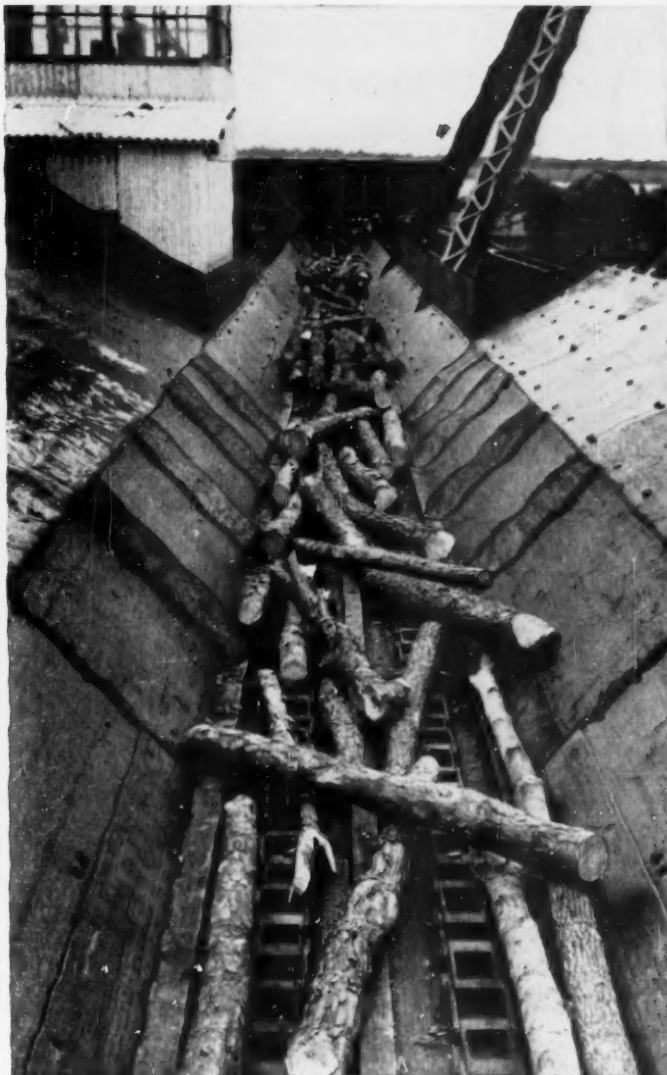
In the United States, Mr. McArdle said, one-fourth of forest land (180 million acres) is publicly owned, and three-fourths privately. Of this latter portion, 76% is in the hands of small owners. There are 4,250,000 of these small owners. The three major responsibilities of the Forest Service are: (1) Handling of federal forests; (2) research; and (3) aids to private owners, principally through the state agencies.

Although research and management of the federal forests are the two principal responsibilities, Mr. McArdle indicated that the Service could not shirk its third duty if the states did not respond to their responsibilities regarding cutting and control of private forests. He said that 14 states have excellent laws governing cutting practices.

Regarding surveys of timber resources, Mr. McArdle said there are shortages of certain species, which is admitted by everyone, and he denied that the Service has forecast any great timber famine. He views the Service as having responsibilities to groups outside the industries based on the forest products—wildlife, parks and recreation, water power and supply, etc.—and that in endeavoring to maintain a balance for the overall welfare of the nation some interests are bound to feel they are being dealt with unfairly. "Our goal is to maintain harmony and protect the national forests," he said.

PAPER IS ESSENTIAL

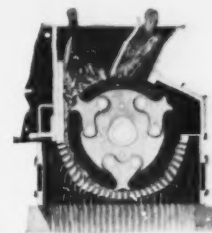
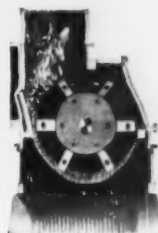
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A Jeffrey Belt Conveyor handling chips (above). Chain Conveyor handling pulpwood at the left.



Crushers, pulverizers and shredders for reducing wood, chips, salt cake, pulp lap, etc.

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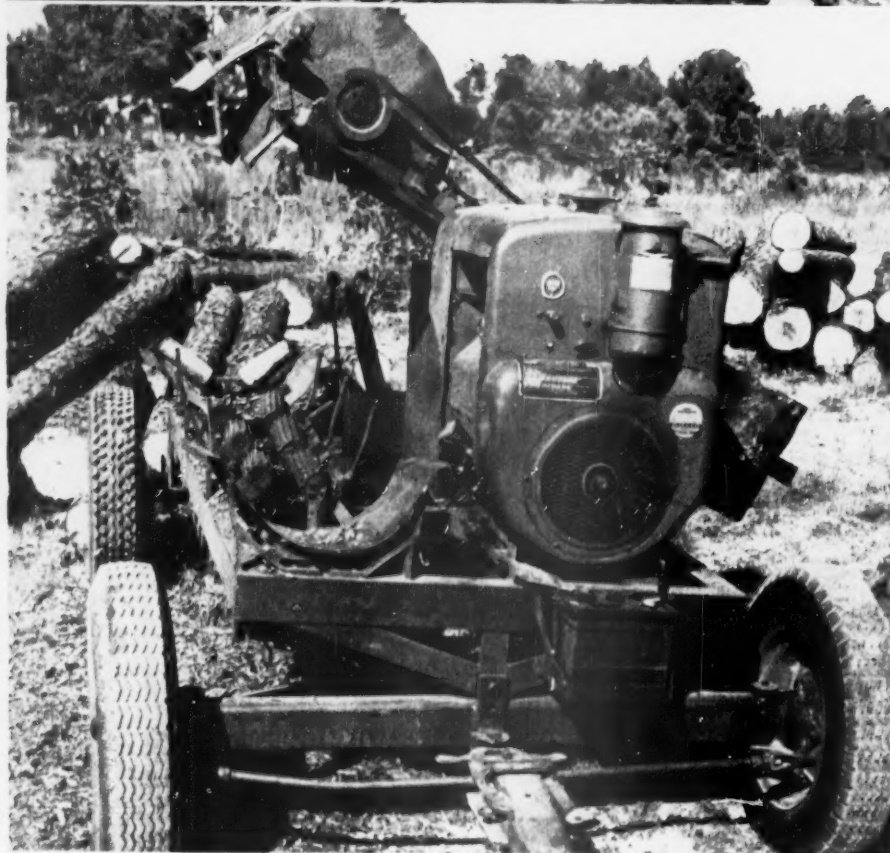
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Materials Handling
Processing and
Mining Equipment



NEW CARPENTER DEBARKER



Barking of Southern hardwood pulpwood at the rate of 14¾ units (not cords) in a 9-hour day is being effected by W. C. Rogers, a Bay Springs, Miss., dealer, using a portable machine patented by R. J. Carpenter. It is completely mobile, being mounted on a trailer and in operation is started at the end of a stack of pulpwood, working its way through as the wood is fed.

(A unit of pulpwood is 168 cu. ft. as contrasted to a cord—128 cu. ft.).

The barker weighs 3500 pounds. It measures 10 feet 6-inches long, 5-feet

A VIEW (below) of new portable barker invented by S. J. Carpenter and manufactured by Soderhamn Machine Mfg. Co. Note feed rolls below raised barker head.

6-inches wide, and 5-feet high. It can be pulled from one place to another by either passenger automobile or truck. Power for the barking operation is provided by a 15-25 H.P. Wisconsin Model V-F-4 air cooled, 4-cylinder, B-type gasoline motor, complete with starter, generator and oil filter.

The bark is removed from the wood through abrasive action of sections of chain bolted to a shaft mounted on self-aligning ball bearings and driven by two V-belts

INVENTOR AND PIONEER



R. J. CARPENTER (left), retired sea Captain, who invented the new portable barker, and **W. C. ROGERS (right)**, former Diesel Engineer, who is pioneering its use in Mississippi.

CLOSEUP VIEW (top) showing hardwood going through the Carpenter portable barker, manufactured by Soderhamn Machine Mfg. Co. Operator seated at left.

on each side of the shaft. The chain shaft is covered by a head that prevents bark from flying. The entire head is carried by two shafts, one on each side so designed as to permit adjustment to the changing diameter of pulpwood being barked. The debarking head is driven directly off the countershaft.

The barker has been used effectively on pulpwood ranging from 4-inches to 16-inches diameter although smaller and slightly larger sizes have been put through occasionally. The barker is set at the end of a pulpwood stack. The wood is fed through by one man and restacked at the clean end by another. The barker is rolled back as the unbarked wood stack dwindles. The third man of the crew is the operator who has complete view of the process and controls the clearance of the barking head and rate of progress of the wood through the machine, providing a complete flexibility to fit the work to individual pieces.

The feed works consists of a half-dozen ribbed rollers (three on each side) set at an angle (each) and driven through universal joints to permit adjustment to control speed of the pulpwood through the machine. The wood nestles between and on the rollers. The spacing of the rollers controls the rate of feeding. A gear box Dodge speed reducer is provided for the feed rolls, with power coming from the countershaft through sprockets and diamond chains.

Barking can be effected as fast as wood can be fed into the machine, the actual time required being controlled by the species and the season. In summer months, the bark sloughs off both pine and hardwood. In the winter, when sap is down, the hardwood bark clings and requires more treatment. When viewed in operation at Bay Springs, the machine was debarking several varieties of hardwoods including gum, ash and oak. Since the area has been affected by drouth for two months, the barking was hard but efficient. The wood being barked was for shipment to Masonite Corp., Laurel, Miss.

The inventor, R. J. Carpenter, was a

THE HARRISON LOADER CRANE

*Designed for the special requirements
of pulpwood bandling*



A new design feature, the automatic counter weight, gives the Harrison Loader Crane unequalled stability. Moving back as load is lifted, the counter weight transmits load stresses to the rear axle, makes operation easier, reduces strains caused by "rocking." Counter weight is hydraulically operated, fully automatic.

With a high lift to unload trucks and a long reach to place loads at far side of gondola, the loader crane speeds up every phase of pulpwood handling on the storage yard.

The loader crane is mounted on a Case "LAI" industrial tractor—weight of loader and tractor including counter weight is 23,770 pounds.

For further information write or call —

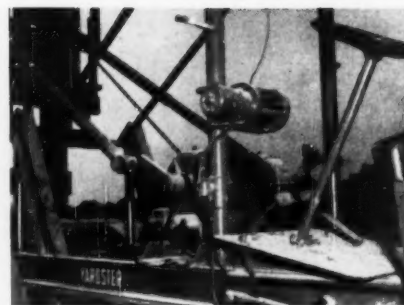
HARRISON MANUFACTURING CO.

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merchant marine ship captain with Lykes Bros. Steamship Co. until retirement in 1947. He became interested in developing a barker through comments he heard in contact with pulpwood operators at service garages. His first barker started operation in the spring of 1950 and since that time 24 units were produced in Meridian, Miss., in cooperation with M. R. Carpenter, a brother, and W. L. Sullivan. All 24 are still working.

Mr. Rogers was formerly a Diesel engineer but in recent years has been serving as communicable disease officer in a 4-

county district for the State of Mississippi. He became interested in pulpwood dealing as a side line and his close study of the machine has provided modification of details increasing its efficiency. Because Mr. Carpenter and his associates felt their resource inadequate to produce the machine in volume to meet demand a license-contract has been effected with Soderhamn Machine Mfg. Co., Talladega, Ala., of which Gus Jacobson is president-manager. That company is producing the machine and Mr. Carpenter serves as distributor in Mississippi.



IN FRONT OF OPERATOR'S SEAT (on the upright) for TAYLOR YARDSTER is small motor-driven winch that releases hook and pulls the cable from around pulpwood after it has been placed on rail car. The control button is in the top of the lever at right.

NEW "YARDSTER" IS USED IN ALABAMA



TAYLOR PULPWOOD YARDSTER places a load on railroad pulpwood rack car. Once placed, the operator's touch of button releases load. For highway travel heavy pins in braces for

the upright are withdrawn, permitting upright section to come back onto prepared carrying braces.

Rapid handling of pulpwood from truck to railroad rack cars is provided by a "Yardster" developed by Taylor Machine Works, Louisville, Miss., and currently demonstrated at a concentration yard at Lisman, Ala. The mechanical device is mounted on a standard truck and provides mobility. Transfer from truck to rail car can be affected in from 4½ to 6 minutes.

The handling apparatus functions as a lift truck but in reverse. The forks have cables with hooks that are passed around the pulpwood and caught underneath, the truck load being separated into two or three bundle sizes by stakes to provide the right size lift and for rapid unloading. With cables caught beneath the load, the forks lift it from the truck and then, lifting to required height, placement on the car is effected. After the pulpwood is on the car, plates set on the uprights are used to bump ends to dress up any protruding ends.

The yardster has two winches, one of moderate size to lift the load, and a smaller one placed on an upright in front of the operator. The small winch is motor driven and controls the cables. When the pulpwood has been placed on the car, the small

winch tugs at one side of the dual cables, tilting the hook so it becomes unfastened. The action, continued, pulls the cables from around the wood. A heavy pin holding the angled braces for the upright section (one on each side) are removed, permitting the upright portion to come back to rest on supports for highway travel.

The yardster is furnished on a standard GMC truck, or can be fitted to a company (purchaser) unit. In mounting, the differential is reversed so that forward speeds are in reverse and the driver faces the load. The yardster is equipped with a Mico brake-lock, making it possible for the operator to automatically lock the hydraulic brake system while loading or unloading. The lock is released by depressing the brake pedal. The equipment requires only the operator and one man to hook the cables, the latter task being easily performed by the driver of the pulpwood truck.

The yardster is designed to serve a counterpart function in pulpwood to that served by the Taylor's "Logger's Dream" in the logging field. The "Logger's Dream" is a combination unit mounted on a truck that loads, skids, and rehals logs—and

pulls itself through bad spots in woods trails. It has fitted into all sizes of operations, but has been used extensively by smaller operators because of its flexibility.

Similarly, in the pulpwood field, the yardster functions satisfactorily in yards but particularly fits the situation where the contractor has a scattered operation or where railroad cars are to be loaded in isolated switch tacks, some one place and others at another or other locations. It is not too large a unit for rapid transfer between points and is adaptable by the average pulpwood contractor.

ENGINEERS HEAR OF EQUIPMENT

Mechanization in the woods operations of South, Northeast and Lake States was shown in slides and discussed by James E. Holekamp, logging engineer of the American Pulpwood Association at the Chicago Engineering Conference.

One piece of equipment that drew a lot of attention was the Ware-Vercillino loader used widely in Lake States for loading up to one cord. It is a small skidding loader with hydraulic grapple, easily operated by elderly farmer or even his wife, requiring only one operator instead of two.

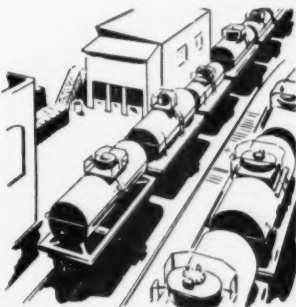
The APA engineer said more savings could be made dollar-wise in truck loading than in any other cycle of pulp manufacturing. Unloading truck by hand today is "pure folly," he said, yet most wood is unloaded that way in regions he observed.

He cited use in South of swing boom and small boom for truck loading. A man with cable in hand on truck controls hoisting of as much as 10,000 lbs. from ground to truck or cars or back to ground. In the Northeast, an operator on a truck has button controls for a long chain conveyor. It brings logs to a point above the truck for cross loading. Also in Northeast, a railroad dumps about 70 cords an hour in water with a hydraulic hoist than tips the car at an angle.

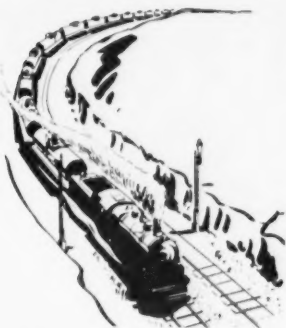
From 32% to 39% of cost of depositing a cord of wood at an unloading point is absorbed in materials handling and primarily in labor, said Mr. Holekamp, and the industry eventually must replace much of this cost with machine power operation.



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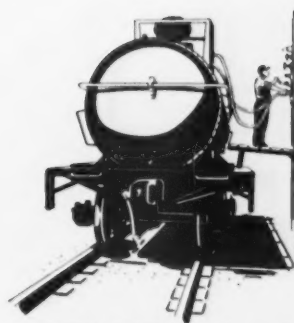


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- 211 Chemistry of Bleaching Chemical Wood Pulp
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- 236 Importance of pH and Catalysts in Bleaching Operations
- 242 Production and Use of Unsettled Bleach Liquor
- 243 Procedures and Brightness Grades in Bleaching Sulfate Pulp

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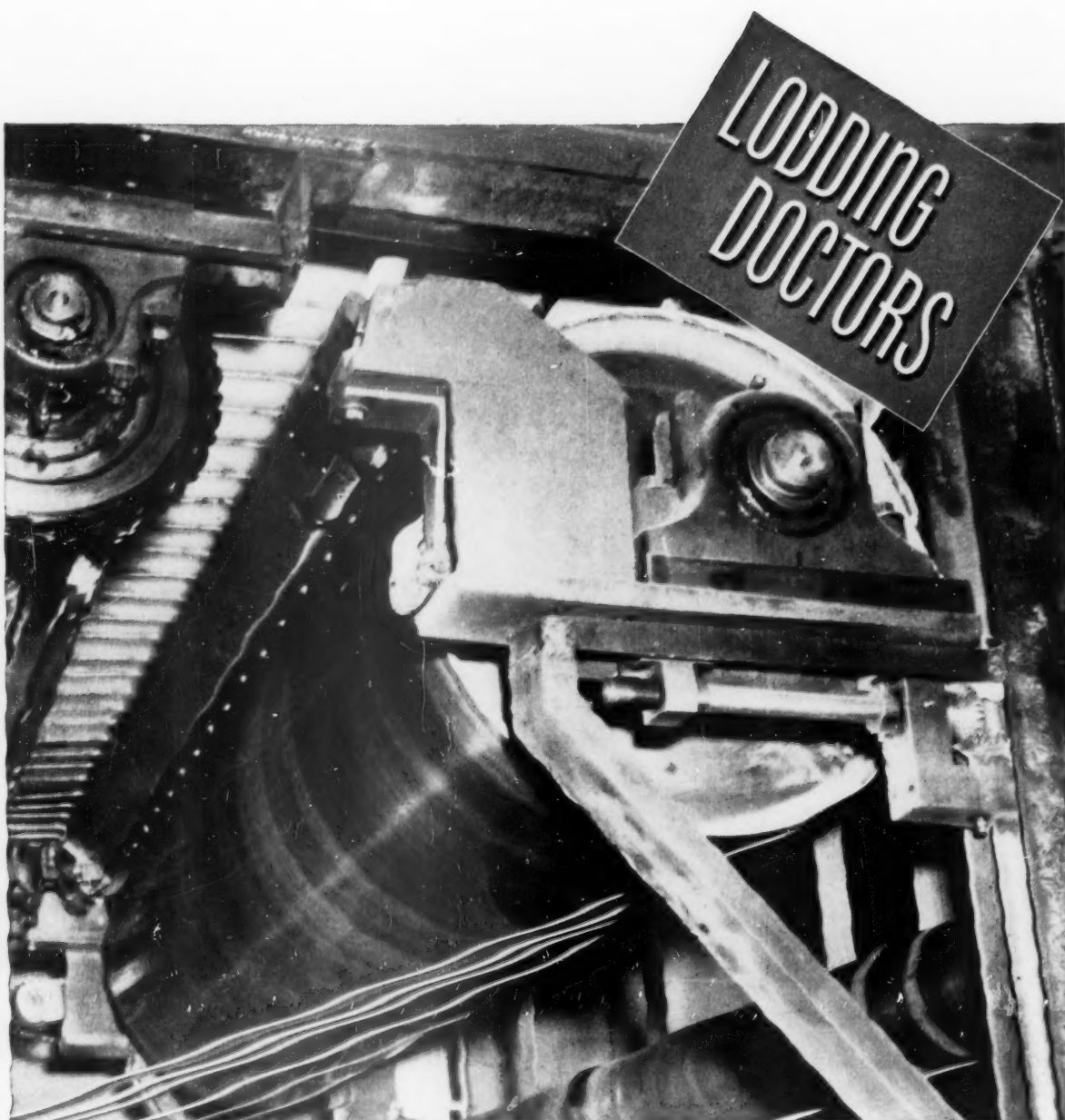
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Sulphur



*Thousands of tons
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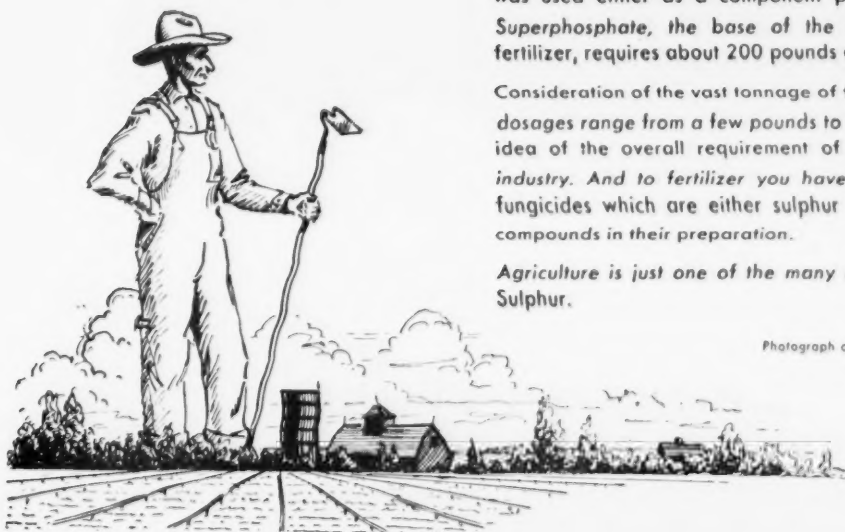
THE DEPARTMENT OF AGRICULTURE reports that in 1950 some 336,000,000 acres of land in the United States were under crop cultivation. That's a lot of acreage.

But where, you might ask, is the connection with Sulphur? Fertilizer, to take just one phase of agriculturally-used chemicals in which Sulphur was used either as a component part or as a processing element! Superphosphate, the base of the most widely used manufactured fertilizer, requires about 200 pounds of Sulphur for every ton produced.

Consideration of the vast tonnage of fertilizer used in agriculture — and dosages range from a few pounds to a ton or more per acre — gives an idea of the overall requirement of Sulphur for this one division of industry. And to fertilizer you have to add all the insecticides and fungicides which are either sulphur derivatives or have used sulphur compounds in their preparation.

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Photograph above shows our loading dock at Galveston, Texas



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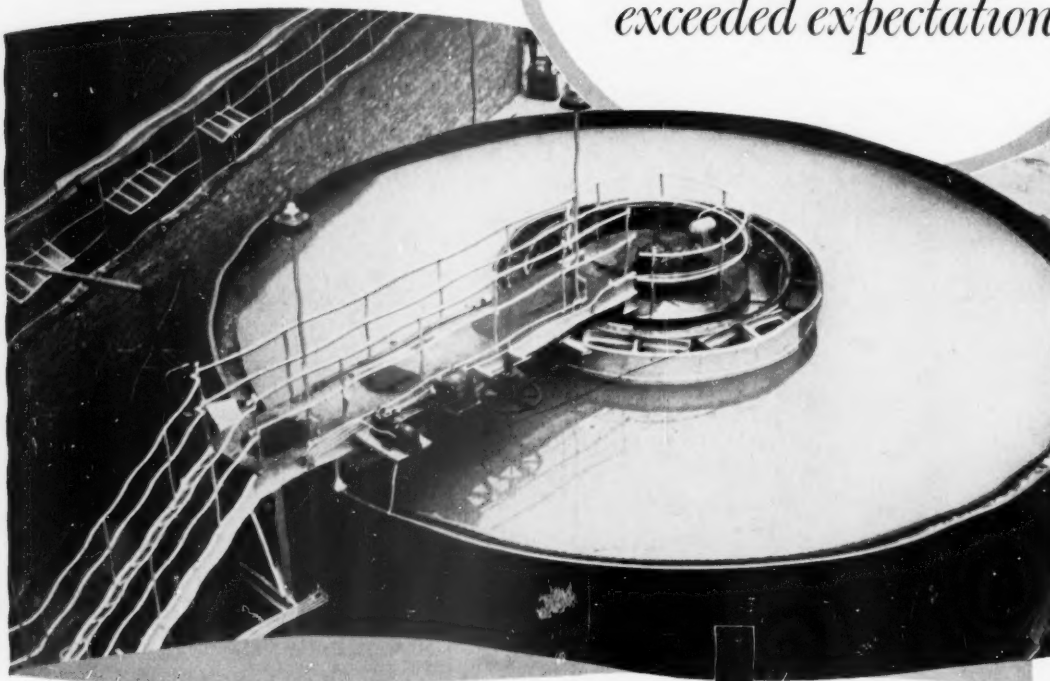


The Norristown Magnesia and Asbestos Company had a difficult problem in the treatment of its asbestos fiber wastes. It experimented with many methods. A Cyclator pilot plant proved that it could meet the problem... and the actual installation is surpassing pilot plant results!

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THE PROBLEM

Treatment of asbestos fiber wastes from mill board, insulation and wool felt products containing varying amounts of talc, carbon black and scrap material. Problem further complicated by shock loads occasioned by dumping of beaters without warning, which increased per cent of solids 2 to 3 times.

THE SOLUTION

Installation of a 45-foot diameter Cyclator and a Vortex Grit Remover.

THE RESULTS

Suspended solids reduction ranging from 94.5% to 99.7%. Sludge concentration is easily held to between 1.5 and 2.5% by weight of solids which can be conveniently handled. Higher concentrations are possible, up to 6% having been obtained. Effluent is re-used for process water. Grit is removed from fibers, so that sludge can be re-used in mill.

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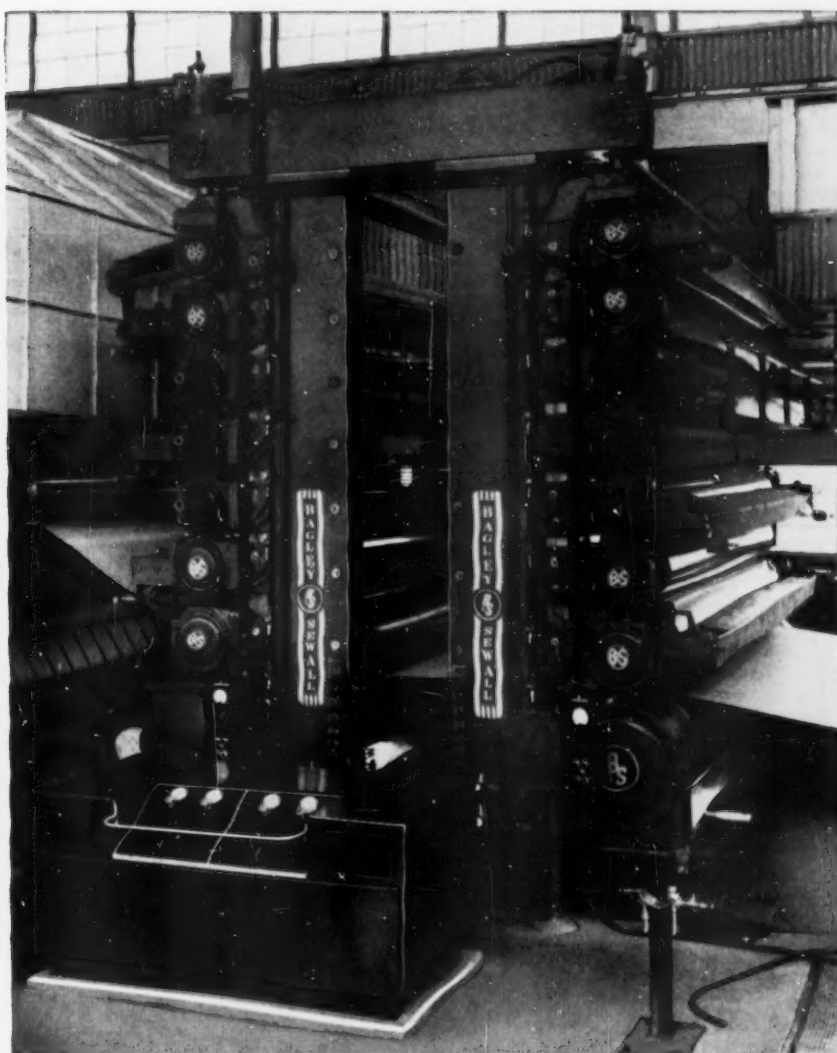
For further information on the Cyclator write for Bulletin No. 850-A.



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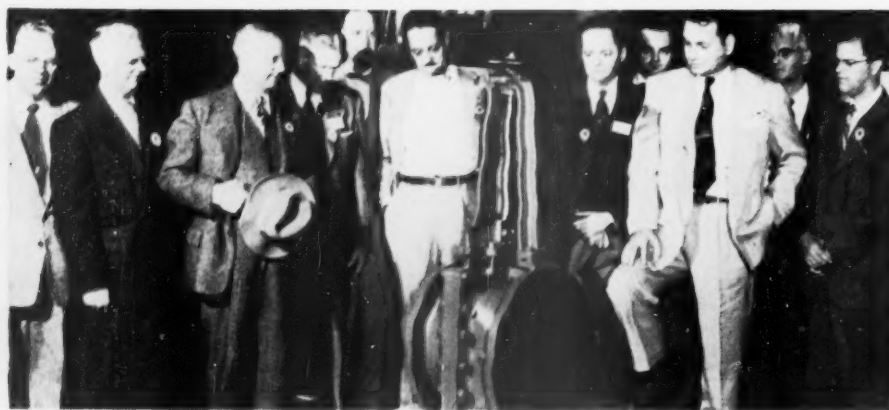


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CHICAGO ENGINEERING CONFERENCE



ENGINEERING CONFERENCE DELEGATES: Inspecting a 16-inch pulp stock valve at the CHICAGO WORKS OF CRANE CO. during Chicago convention. From left: W. Lyle Borst, Power Service Corp., Minneapolis; Carl W. Ziegenbusch, Mead Corp., Chillicothe, O.; Alfred S. Oliver, M. & O. Paper, International Falls, Minn.; George S. Weinman, Bloomer

Bros., Newark, N. Y.; P. E. Fuller, Mead Corp., Chillicothe; Leon E. Savage, Small Defense Plants Administration, Richmond, Va.; W. E. Riley, Riley Corp., Livermore Falls, Me.; J. Wisniewski, Link-Belt, Houston, Tex.; A. A. Peterson, Buckeye Cellulose, Memphis, Tenn.; Russell Seip, St. Regis, Pensacola, Fla., and Thomas A. Feazel, Buckeye Cellulose, Memphis.

(For other reports, see last month's PULP & PAPER. This review was written for PULP & PAPER by one of a number of West Virginia PULP & PAPER engineers selected to attend the meeting, mostly younger engineers in that company. Pictures of other Westvaco engineers were in the December issue.)



W. M. LaFON, Paper Mill Engineer, West Virginia Pulp & Paper Co., wrote this brief review for PULP & PAPER.

By W. M. LaFon
Paper Mill Engineer, Luke, Md., Mill
West Va. P & P Co.

Review of paper: "Relationship of Stock Shear Tester to Head Losses in Stock Flow in Pipes."

Dr. Richard E. Durst of the University of Maine gave an interesting and well received report of progress made toward determining the relationship of pulp stock shear to head losses of pulp stock flowing in pipes. Particularly interesting and well attended was the discussion session following the presentation of the report.

Briefly, the set-up of the project is as follows: A single pipe stock flow system is arranged so that head losses for pulp stock can be measured accurately at ten feet intervals along a sixty feet long straight pipe section. Losses are measured by direct pressure or differential manometer readings. A stock shear tester consists of a rotor rotating in stock contained in a ball bearing mounted cylindrical cup connected to a torque arm. The ultimate goal is to determine the relationship between the stock shear stress,

as determined in the tester, and the head loss for the same stock flowing in a pipe. Relationship changes due to variations in velocity, consistency, temperature and freeness also are to be determined.

At present, the results, although promising, are not sufficiently comprehensive for any conclusions to be drawn. Successful completion of this project, requiring another two years, will be a boon to paper mill engineering, for head loss data now available from many sources show wide variations in values.

With assistance from Victor Head of the Fischer and Porter Co., John McClure and Robert Perry of the University of Maine developed the shear tester being used on the project.

AFTERTHOUGHT OF THE CONFERENCE—The Maine and the Syracuse alumni in the pulp and paper industry have done a good job of organizing and having occasional get-togethers. Two or three other groups would be able usually to round up a good table-full, for example: U. of Washington; U. of Minnesota; U. of Wisconsin; Lawrence College;

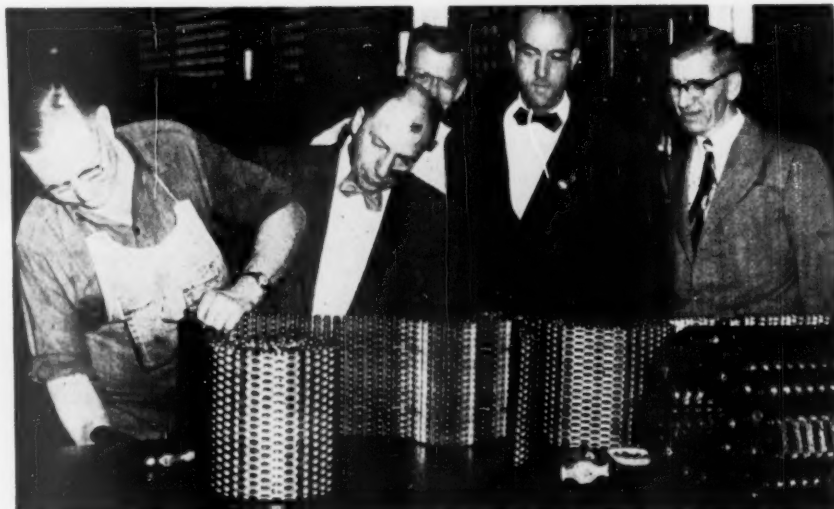
Oregon State College; even Rensselaer Poly....

"FLOW IN CONVERGING NOZZLE" TYPE SLICES—Can Negative Pressure Be Present? This was title of an outstanding paper by a man who knows his subject from years of experience—JOHN B. GOUGH, Liverpool-born consulting engineer for The Mead Corp., Chillicothe, O. He migrated to Canada in 1908, built "locies," hydro-electric plants, etc., and was with the old Laurentide mill before being Mead's chief engineer from 1937-51. His analysis of pressure against a straight converging top slice plate indicated a negative (below atmospheric) pressure will be present for a jet or wire speed of about 300 fpm. if in contact with liquid or pond for any greater distance than 6 in. from top slice plate angle of 50 degrees or more, or nine inches for 30 degrees or more. For 600 fpm., no such negative pressure will be present even at 24 in. or more, unless angle of convergence is over 50 degrees. He discussed bad effects possible from negative pressures on formation and sheet quality.

HENRY SCHMITZ, veteran pulp and paper specialist for the A. O. Smith Corp., digester builders, was at the meeting with the youngest of his three sons, James Schmitz, who is in the Chicago office of A. O. Smith.

WARD HARRISON, vice president for production, Riegel Paper Corp., flew into Chicago to pinch hit as acting chairman for the TAPPI Gold Medal committee while WALTER HOLZER, assistant research director, Crown Z, was absent in Europe. Ward said the Riegel Carolina operations are far exceeding fondest expectations in both kraft and semi-chemical end. An Iowa State alum, he is a former Camas and Cloquet and Pischg Forest man.

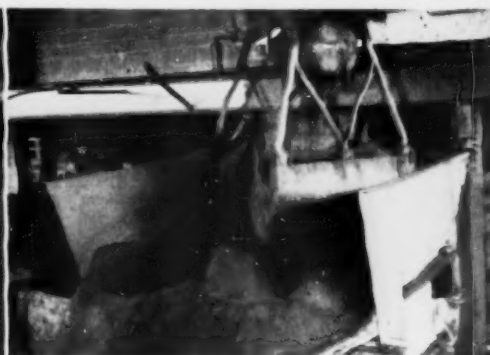
SOME OF CHICAGO ENGINEERING CONFERENCE delegates journeyed to Indianapolis Ewart Plant of LINK-BELT CO. to take advantage of LINK-BELT'S invitation to be guests there and see its conveying and power transmitting equipment being manufactured. Left to right: EMERSON DRAPER, Link-Belt chain assembler; GEO. LYDICK, Beckett Paper Co., Hamilton, O.; JOS. LANGFITT, Link-Belt Supt.; EL OLMSTEAD, Eaton-Dikeman Co., Mt. Holly Springs, Pa.; GEO. BARKER, Beckett Paper, Hamilton. Being assembled are two lengths of 3/4 in. pitch by 9 in. wide double guide silent chain.



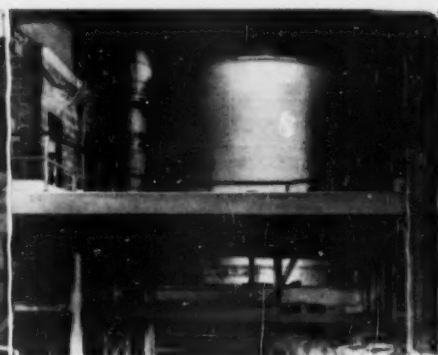
DESCRIPTION OF SO₂ GAS PRODUCER AT BERLIN, N. H. BROWN CO.'S SULFUR PLANT



EXTERIOR OF BROWN CO. PLANT for the manufacture of SO₂ gas from pyrrhotite. Rail cars with iron sulfide concentrate from Vermont Copper Co. enter building on spur tracks at left.



PYRRHOTITE CONCENTRATES are picked up from rail cars with clamshell bucket and discharged into McLanahan & Stone blunger. Material is agitated and mixed with water in blunger to produce slurry.



GENERAL OVERALL VIEW of 16-foot diameter FluoSolids reactor for SO₂ production. The reactor is operated with a 5-foot fluid bed at a temperature of 1650° F.

Diversified activities of Brown Company moved another step toward complete integration of raw material procurement and pulp and paper production and conversion when its FluoSolids System for the manufacture of SO₂ gas from pyrrhotite went into operation this year. Located in the Brown manufacturing center at Berlin, N. H., the new plant has a sulfur equivalent capacity of 9,000 tons per year—a capacity that can be doubled with the addition of equipment—and a source for pyrrhotite that can keep the plant going over 100 years.

Brown Company and Brown Corp., its Canadian affiliate, are producers of kraft pulp and quality cellulose pulp, and converters and consumers of these pulps within the organization manufacture a wide range of products all the way from papers through plastics, textiles, shoes, luggage, hats, to chemically-based products such as detergents and drugs. All this vast enterprise was threatened during the sulfur shortages of the past two years when the new SO₂ plant was conceived.

The sulfur situation has eased since this

first planning, but not the enthusiasm for this new plant. As Gordon Brown, assistant to the president, told PULP & PAPER, the determination to build a plant for the manufacture of SO₂ gas, while prompted by current shortages, was based on the fact that raw material was easily available, that it could be converted economically, and that it added to the long-range independence of Brown in raw material supply. So whether sulfur is short or in good supply, it is considered an economical operation, and one that adds to Brown's long-range integration.

Brown Co. is the first pulp and paper company in the country to produce its sulfur dioxide requirements from an iron sulfide ore. Built for a capacity of 9,000 equivalent tons, the plant is now said to be producing at the rate of 11,000 tons. The system was developed by The Dorr Co., Stamford, Conn., and employs the Dorrco FluoSolids Reactor for production of high-strength SO₂ gas.

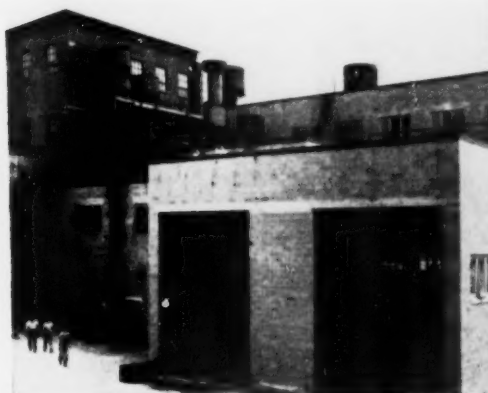
Raw material used by the system is an iron sulfide concentrate obtained under contract with Vermont Copper Co., South

Strafford, Vt. At the mine, about 100 miles from Berlin, the copper concentrates are produced by flotation process, and a further flotation process recovers an iron sulfide concentrate which is shipped by rail to Berlin. There is more than a sufficient quantity of these tailings to take care of Brown's requirements for the foreseeable future, and the contract is on long-range.

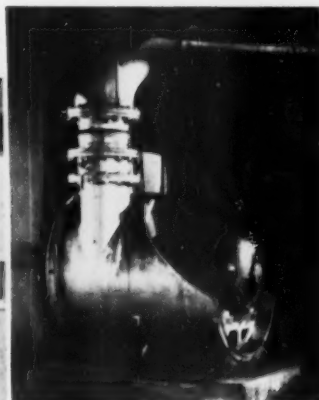
Pyrrhotite concentrates contain a lower percentage of sulfur than pyrite (about 35% sulfur in this instance). But the availability of the material, and the fact that the FluoSolids System could produce a high strength gas from it, forced the decision for its use. There is a possibility that a market for a by-product of this process, calcine, may be developed since it contains about 60% iron and only 0.5% total sulfur and may be sintered to form a high grade iron ore similar to hematite and magnetite.

Since the Brown installation of the Dorrco system is the first of its kind in this industry in the U.S., the following

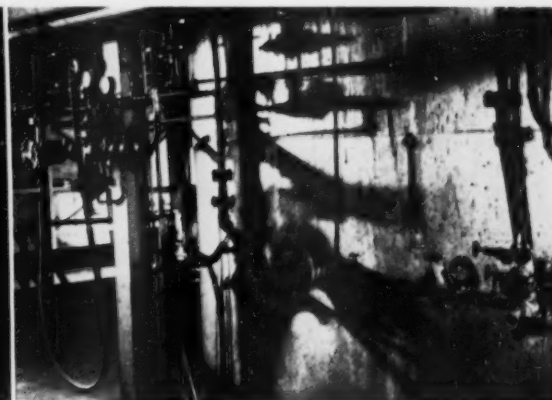
(Continued on Page 98)



REACTOR STACK AND CYCLONE arrangement is shown in this exterior view. Dust from the reactor bed is collected by a two-stage Doclone castable lined cyclone system, each stage consisting of two cyclones in parallel followed by Peabody scrubbing tower.



REACTOR BED is fluidized at approximately 1-foot per second by this Spencer Turbo Blower rated at 3700 CFM at 5 lbs. pressure. Actual operation has been 3500 CFM at 3.5 lbs. pressure at windbox.



CLOSEUP OF SLURRY FEEDING arrangement clearly showing Oliver diaphragm slurry feed pump which feeds the reactor at an operating speed of 8.4 gallons per minute.

BUILDING MAINTENANCE TIPS

STAINLESS STEEL FABRICATION DISCUSSED AT CAMAS

A Weyerhaeuser plant engineer's valuable fund of experience on building maintenance—his useful tips are enumerated in this article;

Experiences in fabricating stainless steel pipe and valves;

A talk on Neoprene and other protective coatings;

Introduction of a pretreatment plant for boiler feed water at a Crown Zellerbach mill—

These were highlights of a Pacific Coast TAPPI meeting at Camas, Wash., in November. Highlights of the above talks are presented in this article.

The meeting included a tour of the new Crown Zellerbach Development Laboratory at Camas described previously in PULP & PAPER. Svarre Hazelquist of Weyerhaeuser chaired the meeting and Don Platt, Crown Z project engineer at Camas, conducted the technical session.

Since a pretreatment plant was added to feed water treating at Crown-Z Camas a year ago, not a single tube failure occurred. Recent inspection disclosed the boilers free of scale, the old scale having been removed and no new scale formed under present arrangement.

Such results were pointed out in a paper jointly prepared by M. R. Rivers and K. J. Linehan, Crown Zellerbach Corp., and presented by Mr. Rivers.

Speeding up paper machines and using higher pressures at the Camas plant materially increased percentage of raw water "makeup" and resulted in additional contamination. Subsequently scattered failures occurred among various boilers. Consequently a 72,000 g.p.h. hot lime and zeolite system was installed in which condensate plus quench enters the system at No. 3 hotwell, is pumped to sedimentation tank from which effluent flows by gravity to and through filters, and then pumped through zeolite cells to delivery pump sending the water to deaerator and on to boilers.

Stainless Steel Fabrication

Harold Hilton, Northwest Copper Works, Portland, Ore., discussed factors concerning pioneering of fabricating stainless steel pipe and valves and their use in the industry. He pointed out that improved welding techniques, controlling and stabilizing carbon content, and precise quenching have been important factors furthering horizons for fabrication and application of stainless steel. The use of light-wall alloy piping opened a new field of development in light weight valves.

He cited an early experience in using fabricated valves in this industry. A pulp mill engineer faced serious problems arising from long delays in securing a number of special face-to-face stainless steel gate valves. Under the circumstances he



TECHNICAL SESSION SPEAKERS discuss feed water treatment, fabricated valves and fittings, exterior maintenance and protective coatings. Top row (l to r): Moderator, Don Platt, C-Z Corp. Project Engineer; Don Felthous, Plant Engineer, Pulp Div. Weyerhaeuser Timber Co.; Raymond P. Hill, President of Chemical Proof Construction, Inc. Lower row (l to r): Harold Hilton, Sales Engineer, Northwest Copper Works; Morris Rivers, Steam Power Staff Engineer and Kenneth Linehan, Feed Water Analyst, both C-Z Camas.

decided to try a complete weldment in place of the original specifications. The resultant fabricated valves, made of heavy stainless steel plate, were installed nearly five years ago and are still in service with no time out for maintenance.

Shortly after installing these original valves, the same engineer had immediate need for four-port check valve. Three days after placing the order this valve—formed from stainless steel plate, welded, annealed and machined similar to the wedge gate valves—the finished unit was in the line and has a record of continuous good service to date, according to Mr. Hilton.

He pointed out that the valves were originally custom-fabricated to customer specifications, the prime factors being quick delivery and special face-to-face dimensions available without extra pattern costs. As the number of applications increased, custom features gave way to demand for standard face-to-face dimensions for installations in additions to existing pulp mills and for complete piping systems in new operations. Fabricated valves are now available in complete lines, including wedge gate, stock, three-way plug type, horizontal swing check, vertical ball check or multiport foot, angle seating or swing-through type butterfly valves.

Protective Coatings

Raymond P. Hill, president of Chemical Proof Construction, Inc., in discussing "The How and Why of Protective Coatings" pointed

out that this industry has corrosion problems all around it. He specified two alternatives—construct of corrosion resistant materials or protect construction with resistant materials especially Neoprene base.

He emphasized that "overloading of any coating has serious consequences." Any solvent-suspended coating, which has some porosity, should be applied in at least three coats and be at least 6 mills thick to obtain results of adequate corrosion resistance. For general surface coatings a good job of surface preparation is necessary and it was suggested that metals should be sandblasted even for maintenance coating applications.

Weyerhaeuser Engineer's Talk On Building Maintenance

Donald G. Felthous, plant engineer, Pulp Division, Weyerhaeuser Timber Co., Longview, Wash., delivered a paper on "Problems of Exterior Maintenance of Mill Buildings" incorporating some ideas he presented a month earlier at Insulmastic Corp.'s annual technical forum in French Lick, Ind.

Exteriors of the industry's buildings are subject to corrosive conditions similar to those of equipment and building interiors, according to Mr. Felthous. He considered exterior building components individually.

BUILDING WALLS:

Wood—These usually require only washing and brushing off loose oxidized paint before repainting. However, blistered or scaled paint requires wire brushing and perhaps light sandblasting followed by priming and finish coats. Considerable strides have been made in past 10 to 15 years in the paint industry with acid and alkali resisting enamels for interior work, but magic has not yet been introduced to exterior oil paints. However, use of exterior paints containing no lead will reduce discoloration under corrosive conditions.

Concrete—If looks are not important, cement washes can be used. These may last for years without further attention. For patching and closing cracks in concrete walls, many types of materials are available, including a new "hydraulic cement" which can be brushed into small cracks in soupy form or used as a putty for plugging cracks up to 1/2 in. wide. The weakness of any thin cement base coating is that it cracks if the wall body cracks subsequent to application. A relatively new application—a gilsonite base mastic with granule surface—about 3/16 in. thick is now used on dry concrete.

Transite—Requires no surface covering unless coloring desired.

Metal—Metal building siding such as aluminum and galvanized steel may not need maintenance for considerable time depending on severity of conditions. Weathered galvanized steel can be finished with any of several corrosion resistants such as chlorinated rubber, asphaltic or gilsonite base finishes. Aluminum, subject to attack by acids and alkalis, can be somewhat protected by a heavy aluminum oxide coating.

WINDOWS:

Wood—Can be treated similar to exterior walls.

Metal Sash—The big problem of steel sash is in keeping it painted, especially along edges. Aluminum sash has been used with good results but original cost rather high. Stainless steel sash is expected to be offered to the industry in near future.

STAIRWAYS:

Wood—Same as for exterior walls except that additional problems presented. All cracks and joints, where corrosion might attack nails or bolts, should be sealed to prevent failure of fastenings.

Steel—these stairways present maintenance problems because they are difficult to clean for

painting. Edges and corners are particularly difficult to protect. Materials may be obtained and techniques established to minimize failure. This can be done where heavy gilsonite asphaltic coverings are used by laying a glass fabric tape over the edges in a prime coat and then finishing over or swiping on a coat of quick drying vinyl coating just ahead of the asphaltic coating.

DOWNSPOUTS:

One of the biggest "little headaches" of exterior building materials is the upkeep of downspouts—the galvanized type does not generally last long in the industry; aluminum ones have been used with varying success. Copper and stainless steel have relatively high initial cost. Transite pipe, with corrosion resistant head, is a popular downspout material. Unless Transite pipe is hit and broken it has very long life.

SUMMARY:

In all cases where coatings are used to maintain any part of building exterior it is imperative that four points be considered:

1. Proper preparation of surface to be coated—no coating will stand up over a blistering, scaling or rusty surface.
2. Choose proper coating for surfaces to be coated that meet the corrosive conditions involved.
3. Apply coating thick enough to be effective.
4. Proper routine inspection and repair of deteriorating surfaces while the areas of deterioration are small and can readily be repaired. It is remarkable how fast coating failures spread. With the present high cost of labor, it is uneconomical to let small areas of deterioration grow into large ones before making repairs.

PACIFIC COAST NOTES

ARCHIE EDWARDS, acid maker at Fibreboard Products, Inc., Port Angeles, who worked a while in a Michigan paper mill before joining the Port Angeles sulfite operation in 1930, has retired.

ROGER E. CHASE, JR., son of R. E. Chase of the company of that name in Tacoma, Wash., representing equipment manufacturers to Pacific Northwest mills, is permanently employed with Trans-World Air Lines in Cairo, Egypt. His father is now consultant and field representative for the company in Tacoma, having recently resigned as its president.

E. GRAY KING, research director for Puget Pulp, Bellingham, is working up the program for Coast TAPPI's annual meeting on laboratory methods and routine control which is slated for Jan. 13 at the University of Washington, Seattle. He was named general chairman by **SVARRE HAZELQUIST**, section chairman and technical director for Weyerhaeuser at Longview.

JAMES E. MORRIS, 69, vice president of Weyerhaeuser Sales Co., died at Tacoma, Wash., Dec. 4. Born in Ontario, he joined Weyerhaeuser in 1926.

F. W. FLYNN, formerly technical assistant to kraft mill superintendent, Crown-Z, Camas, Wash., has been promoted to assistant kraft mill superintendent, a new position at this plant.

GEORGE LUND was named boss machine tender at Crown-Z, Camas, to fill vacancy resulting from retirement of **LEE SHANNON**.

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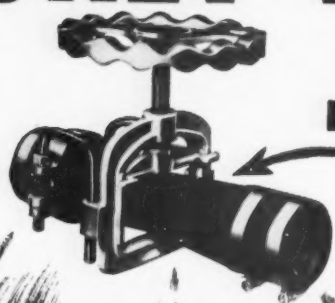
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BROWN CO. PLANT

(Continued from Page 95)

description is of interest:

The pyrrhotite concentrates are received at the FluoSolids plant in rail cars. There is a siding so cars come in under cover and the loads are dumped into pits under the rails. The pyrrhotite is then picked up by a clamshell bucket on a traveling crane and discharged into a McLanahan & Stone Co. blunger. In the blunger the material is agitated with revolving paddles as water is added thru an automatic slurry density controller to develop a slurry containing 73% solids and with a specific gravity of 2.3. The slurry agitator, or slurry storage tank, which follows the blunger holds approximately 6 hours feed and is continually stirred by a Mixco agitator.

At the base of the storage tank is a centrifugal pump, with a capacity of 65 gallons per minute, which recirculates the slurry feed continuously either to (1) blunger; or (2) head tank. The head tank will hold about 20 minutes feed, and is kept at a constant slurry level by a gravity overflow back to the slurry agitator. The tank discharges slurry by gravity to an Oliver diaphragm slurry feed pump, with an operating speed of 8.4 gallons per minute, which subsequently feeds the Dorco 16 ft. I.D. FluoSolids reactor.

The reactor is operated with a 5 foot fluid bed at a temperature of 1650°F. Bed level is held constant by an overflow pipe and automatic discharge controller. Bed temperature is controlled by an automatic water spray energized by means of a thermocouple in the bed. The bed is fluidized at approximately 1-f.p.s. by a Spencer Turbo Blower rated at 3700 CFM at 5 lbs. pressure, actual operation here has been 3500 CFM which is delivered at 3.5 p.s.i. at windbox.

The dust carried from the bed is collected by a two-stage Duclon castable lined cyclone system, each stage consisting of two cyclones in parallel followed by a Peabody scrubbing tower. The dust caught by cyclones is collected in four individual quench tanks. At Brown the operation has used 10-15 g.p.m. in water on each of the first stage cyclones, and 3-5 g.p.m. in each on the second stage cyclones—or a total of 25-40 g.p.m. for the entire quenching system. Gas temperature out of the scrubber is 90°F and water temperature out is 177°F.

The quench water containing collected dust is transferred by an air lift to a main header. The main header leads to a fire-brick lined launder into which, at one point, the overflow calcine is introduced, and from there the combined cyclone dust and overflow calcine are sluiced into the calcine tanks, or direct to rail cars.

Gas Production

At present the Brown pyrrhotite plant

PULP & PAPER

is burning 80 to 85 tons of feed (dry basis) per day, and producing an SO_2 gas strength of 12.5-13 sampled after the Peabody scrubber. Because the scrubbing water is not recirculated, it is calculated that approximately 5% of the total SO_2 produced is absorbed in the water going to the sewer. This would be approximately equivalent to a loss of 0.5% gas strength. Therefore, the actual production at the reaction zone is a gas analyzing 13 to 13.5%. When operated close to the theoretical oxygen requirements the by-product calcine is predominantly the magnetite form of iron oxide (Fe_3O_4).

Although certain figures on the plant's operation are not yet available for publication, the fact that it is producing high quality SO_2 gas beyond its rated capacity (11,000 tons per year) and the gas meets Brown's most rigorous specifications, is indication that it is a successful installation. Thus, the conservation practices of Brown Company bring about use of a mining industry by-product for the manufacture of critical material.

NORTHEAST NOTES

LYNNE FERNER, West Virginia Pulp and Paper Co.'s manager at Williamsburg, Pa., is now also manager of the company's plant at Tyrone, Pa. **DAVID L. LUKE, JR.**, West Virginia's president, made the announcement following death of **JAMES R. SHEA**, who had managed the plant since 1945 and who spent 45 years in the service of the company.

ARCHIE H. DEAN has been named sales manager of the newly-formed specialty products division of Reichhold Chemicals, Inc., and **DONALD G. PATTERSON** technical assistant on resins and plastics. Both will headquarter in New York City. Mr. Dean was formerly with Barrett Division, Allied Chemical, and Mr. Patterson in plastics development for American Cyanamid Co.

LAURENCE F. WHITEMORE, President and chairman of the board of Brown Co., has been elected president of the New England Council, furthering industrial enterprise in the New England area.

T. E. DETCHER is now assistant sales manager of industrial nitrogen chemicals for the Nitrogen Division of Allied Chemical & Dye Corp., New York City. Mr. Detcher was formerly in charge of new product development, and particularly interested in ammonia base processes for sulfite mills.

KARL CLAUSON, vice president of Parsons-Whittemore, Inc., New York City, returned in December from a two weeks' trip to Europe where he visited some of the offices of his company there.

RAY HILL, plant engineer at Congoleum-Nairn, Inc., Cedarhurst, Md., is receiving congratulations on the arrival of Michael Hill Nov. 20, 1952. Mother and son are doing nicely.

A. L. M. BIXLER has been appointed to the Delaware TAPPI E. J. Albert Award Committee to fill the vacancy which occurred when Gus Erspamer left for the West Coast.



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Special cranes for the pulp and paper industry are everyday business with us at EDERER. The job requirements of this industry call for many types of specialized cranes . . . cranes with extremely high lift, low head room, canting cranes, roll-handling cranes, stand-by cranes (like the crane shown here)—and others. EDERER has been working with this industry for most of its 50 years—and has "job-engineered" cranes for these many varied job requirements—for the leading pulp and paper manufacturers.

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Personals

CANADIAN PERSONALS

H. P. KLINESTIVER, appointed special consultant to the president of Marathon Paper Co. on Canadian operations of the company, Toronto, before leaving the Head of the Lakes region, was feted by the Thunder Bay Timber Operators Association at Port Arthur, Ont. They presented him with a set of golf clubs.

P. V. LEMAY and J. H. GODDEN, Marathon Paper Mills and Great Lakes Paper Co., respectively, were appointed by the Association as directors of the board.

C. M. MATHESON, general sales manager, Fraser Companies, Edmundston, N. B., and director of some of their subsidiaries, was elected to the board of directors of the parent corporation.

NORMAN TERRY, associated with Canadian Sumner Iron Works, Vancouver, B. C., for 30 years, has been elected president, succeeding

G. W. ALLAN, Vancouver industrialist, founder and president of Canadian Sumner, who died recently. He was 63. His son, HARVEY M. ALLAN, has been named secretary treasurer.

W. T. BENNETT, chief engineer, Canadian International Paper Co., Montreal, Quebec, industry executive, visited the West Coast recently.

W. A. BALL, managing director, B. J. Ball, Ltd., Sydney, Australia, and London, conferred with Canadian paper manufacturers.

J. H. BLACK, treasurer of Canadian Chemical & Cellulose Co., Montreal, made his first trip to Castlegar, B. C., where the Celanese subsidiary plans to build a pulp-paper mill. L. S. APSEY, chief counsel, Celanese Corp., N. Y., and J. L. DAWSON, also went to the coast, where they were welcomed by R. A. C. DOUGLAS, Vancouver lawyer, Controller HAROLD HUDSON, and Woods Manager AXEL BRANDSTROM.

R. W. MAYHEW, founder and president, Sidney Roofing & Paper Co., Victoria, B. C., has been appointed Canada's ambassador to Japan and for the next few years will make his home in Tokyo. He also served as Canada's minister of fisheries.

MEN WANTED—POSITIONS OPEN

We can place—Sup., foremen and mechanics for paper converting plants; asst. supts. and night supts. for Cylinder mach. board mills; converting supervisor, facial and toilet tissue also napkins; asst. office mgr. (South); sales mgr. or sales engineer for pulp and paper converters (foreign); methods and systems supervisor.

Mechanical and electrical engineers; plant engineers; master mechanics; power plant supervisors; coating supervisor board mill; paper technologist; chem. engineers for asst. supt., one for quality control work; chemists and laboratory men for mills, also for demonstrating and selling; finishing foremen coated and uncoated papers; pulp and paper sales trainees; heater engineers; machine tenders and back tenders.

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Good production and labor relation record. References furnished. Write to P&P Box No. 136, % PULP & PAPER, 71 Columbia Street, Seattle 1, Washington.

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Pulp and paper firm. Write stating most desired territory east of Mississippi, experience, other pertinent details, salary or salary plus commission if desired. Operate out of New York City or other city if acceptable. Absolute secrecy guaranteed. Write to P&P Box No. 135, % PULP & PAPER, 71 Columbia Street, Seattle 4, Washington.

WOODS EXECUTIVE

A new paper mill now under construction requires an executive with broad experience in large scale woods management and operations. Must possess administrative ability and be capable of organizing and directing all phases of a woods program. Experience in pulpwood procurement in Southern States is highly desirable. In addition, should have direct experience in management of pulpwood production activities.

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Calhoun, Tennessee

SALES ENGINEER

Position of responsibility with national manufacturing company selling steam specialties. Prefer graduate engineer in good health with established sales experience, aged 28-38. Position requires and rewards integrity, energy and initiative. Location—Pacific Northwest. Replies held in strict confidence. Please send reply to P&P, Box No. 134, % PULP & PAPER, 71 Columbia St., Seattle 4, Washington.

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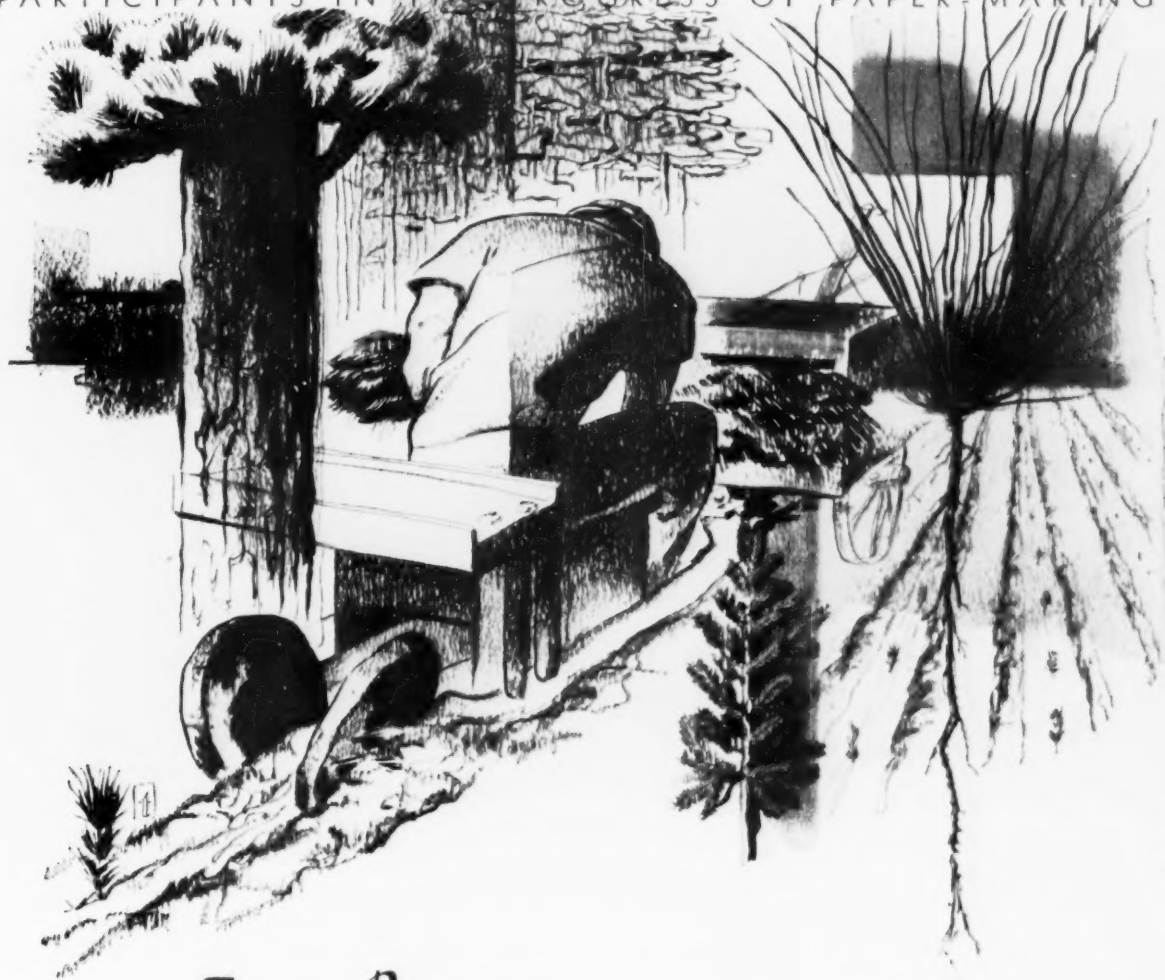
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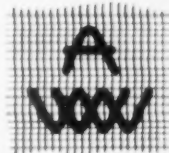
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Forest Products... pulp wood, primary source of the cellulose fiber essential to paper-making, is now grown as a crop . . . a new concept which insures the continuing stability of one of America's greatest industries.

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January 1953

101



NORTHEAST NOTES

ERNEST H. MALING, senior vice president, Brown Co., retired Nov. 1 after 32 years of service. Prior to his retirement, he was named vice chairman of Brown Co.'s board of directors. His career with Brown began in 1920 at Portland, Maine office. After 13 years made comptroller. In 1941, he became treasurer and 2 years later was promoted to vice president of finance and accounts and treasurer.

J. J. ZIMA was carrying on as acting manager of Newsprint Service Bureau in New York City pending permanent action by the directors in late December to name a successor to **VERN TIPKA**, who resigned to become assistant to the president of St. Lawrence Paper Co., Norfolk, N.Y.

WILLIAM S. BUZZARD, assistant pulp mill superintendent for West Virginia Pulp & Paper Co. for the past five years at their Williamsburg, Pa. mill has joined the Fischer & Porter Co.'s pulp and paper application engineering staff. He is a chemical engineer graduate of M.I.T., also attended Mercersburg Academy. Mr. Buzzard is a veteran of the "Rainbow Division" of World War II.

PIERRE M. LODDENGAAARD, former president of United Board & Carton and formerly with Bulkley, Dunton & Co., returned recently from a trip to Argentina, Uruguay, Brazil and Venezuela, where he visited new and old machines. He said his future plans are undecided. His address is P. O. Box 1408, Grand Central Station, New York 17.

CHARLES K. FLINT retired from active service as an Eastman Kodak Co. vice president and general manager of the company's Kodak Park Works, Jan. 1. **IVAR N. HULTMAN**, company vice president and assistant general manager at Kodak Park, succeeded Mr. Flint as general manager. Kodak Park manufactures photographic film, paper, and chemicals at Rochester, N.Y.

GEORGE M. SUYDAM, Riegel Paper Corp., Riegelsville, N.J., as chairman, met with the executive committee of the Pennsylvania-New Jersey-Delaware Supts. Division Nov. 15, to formulate plans for 1953. Present were: Andrew J. Luetzgen, P. H. Glatfelter Co.; Cletus D. Coffman, Chesapeake Paperboard; Glen T. Renegar, Container Corp.; Elmer Mitchell, Glassine Paper Co.; L. H. Bidwell, Jr., Riegel; James Traill, W. C. Hamilton & Sons; Howard Street, National Vulcanized Fibre; Alan Boyd, F. C. Huyck & Sons; Lionel Sutherland, Sutherland Refiner Corp.; V. D. Vigneron, Tyler Co.; Joseph A. Paciello, DuPont; and Alfred M. Hartley, Nopco Chemical.

D. BRUCE ERVIN for the past two years in engineering design and service has been added to the sales department of J. O. Ross Engineering Corp., New York City. His territory will be Pennsylvania,

New Jersey, Delaware, Maryland, Virginia and West Virginia. Mr. Ervin was previously with York Corp. He is a graduate mechanical engineer of Univ. of California, 1942.

GEORGE E. CONNOLLY, vice president of Nichols Engineering & Research Corp., 70 Pine St., New York City, died recently at his home in New York City. He joined the company in 1943 as vice president in charge of the Industrial Division.

RALPH B. MALTBY, vice president and a director of St. Regis Paper Co., died at his home in Bronxville, N.Y., Oct. 10. Mr. Maltby's career in the pulp and paper industry began with his management of a group of paper mills in northern New York for the Hanna Paper Corp. and he became associated with St. Regis when this company acquired the Hanna interests in 1922. Mr. Maltby was mayor of his home city for the past 10 years.

Butler and Dahl Join Port Townsend

Resident Manager F. L. Ziel announced appointment of R. A. (Rob) Butler to the position of technical superintendent of the Port Townsend, Wash., division of Crown Zellerbach Corp. Mr. Butler transferred to Port Townsend from Pacific Mills Limited, Ocean Falls, B.C., where he had been for the past three years. Prior to joining Pacific Mills, Mr. Butler was employed at the Camas Division.

Mr. Ziel also announced appointment of C. R. (Ray) Dahl as industrial engineer. Mr. Dahl has been with the Industrial Engineering Department of Crown at Portland, Ore., and most recently was active in planning and assisting in the construction of the new converting plant at San Leandro, Calif.

Venturi Scrubber Will Be Used at New Bare Mill

A Pease-Anthony venturi scrubber is being supplied with a nominal capacity 83-ton Babcock & Wilcox recovery boiler for the new pulp mill of the D. M. Bare Paper Co. of Roaring Spring, Pa. In the article which enumerated most of the major equipment ordered for this modified soda pulp mill in our October issue we erroneously stated that a precipitator, rather than a venturi scrubber, would be supplied.

Gustin Heads Survey; Rupert Succeeds Him

A program to make greater use of waste woods in the Grays Harbor Division of Rayonier Incorporated has been announced by George A. Holt, resident manager. With proper study it is believed possible for the Hoquiam, Wash., mill to use types of waste woods heretofore deemed unsuitable for making the company's high grade pulps.

Anton Gustin, with wide pulp mill experience in Canada and U.S., has been appointed to coordinate the program, working with Rayonier's Timber Division, Central Engineering Office and management.

Mr. Gustin was succeeded as pulp mill superintendent at Grays Harbor by Steve Rupert.

Warren Heads Chase Co. But R.E.C. Keeps Calling

Harold F. Warren has succeeded to the presidency of R. E. Chase & Co., Pacific Northwest manufacturers agents, but Roger E. Chase is just going to keep right on calling on the mills.

Reorganization of the company, with several younger members moving into officerships, was Mr. Chase's own idea. He encouraged them to buy stock in the company which represents a long list of equipment firms, including Zarembo Co., Pittsburgh Lectrodryer, Hills-McCanna and others.

But Mr. Chase, while he has sold his remaining stock, has no intention of taking it easy. He continues as consultant and field salesman.

The new president, Mr. Warren, was born in Iowa and graduated with Chem. E. degree from Iowa State. He moved to Tacoma, Wash., in 1919, joining the Tacoma smelter firm, and has been with Mr. Chase since 1928. Headquarters of the company continue at 233 East 11th, Tacoma.

New company officers are Hobart Tenef, vice president, of Spokane, Wash. office (Hyde Bldg.); Bill Woolley, secretary-treasurer, of Portland, Ore. office (1220 SW Stark); Chet Sorensen, assistant secretary-treasurer, Tacoma.

Griffith, Industrial Leader in Oregon, Dies

Franklin T. Griffith, chairman of board of Griffith Rubber Mills, president of Fir-Tex Insulating Board Co., chairman of Portland Traction Co., identified with Portland General Electric for 50 years and a builder of power and other industries in western Oregon, died Nov. 7. He was 82.

Mr. Griffith had suffered a heart attack a week earlier and he died at his home in Portland, Ore. His widow and twin daughters, Mrs. Zina A. Wise and Mrs. Ray Sprague, were among survivors.

Opportunities in Mills

A seminar "Opportunities in Pulp and Paper" held recently at the U. of Washington was well attended by chemical engineering and chemistry seniors and graduates.

Industry men present and the subjects each discussed with a view to acquainting students with opportunities were:

John McEwen, tech. dir., Weyerhaeuser, Everett—research; C. W. Cassell, plant engineer, Everett Pulp & Paper Div., Simpson Logging—engineering; Fred Keene, Weyerhaeuser, Everett—Technical department; Don Pearson, Puget Sound Pulp & Timber Co., Bellingham—operations; Paul Baldwin, Asst. v.p., Scott, Soundview Div., Everett—management; Harry F. Lewis, dean, Institute of Paper Chem., Appleton—advanced degrees; Arthur Armstrong, personnel mgr., Scott, Soundview Div.—salaries and employment policies. Others present: Russell J. LeRoux, mill mgr., Weyerhaeuser, Everett; R. W. Moulton and J. L. McCarthy, Chem. Engineering, Univ. of Washington staff.

NEW OKLAHOMA MILL

(Continued from Page 48)

glasses, the equipment being located in a recess below the drivers.

Speed and draw adjustments are made from controls at the front side and overall speed is controlled by the DC motor; draw adjustment is by electric motor driven belt shifts on cone pulleys.

The two calender stacks are equipped with Downingtown reversing drives with reduction gears. The reel stand has the conventional steel tubing drum and adjustable tension. The seven and nine calender rolls were furnished by Lobdell Co.

Cameron furnished a double drum single shaft winder which has score cut slitters with a Horton clutch variable speed drive. The hydraulic elevator table that receives rolls from the winder and lowers them to the floor came from Rotary Lift Co. A scale has been provided.

Machine auxiliaries include three Nash Engineering Hytor vacuum pumps, one an L-6 and two L-7's with Westinghouse motors, all turning at 1750 RPM. The seven vat circulation units are each of 2500 GPM capacity with 15 foot head. A 15-HP motor drives each one.

Felts are kept clean with Vickery conditioners. Other items include Lodding doctors, Broughton showers, and a complete Midwest Fulton condensate drain system.

Steam for the Certain-teed mill is furnished by the Grand River Dam Authority through a 16-inch diameter insulated, mile-long line that delivers at 50 psi pressure, the rate being 20¢ per 1000². The million gallons of water used daily cost 5¢ per 1000 gallons, reaching the property line from the same source through a 12-inch transite line and entering the building through an 8-inch line. Electric power from the Authority is delivered at five mills per KWHR at 13.2 KV, 3-phase, 60-cycle. The 4000 KW mill sub-station changes this to 2300 volts for a circuit serving motors in excess of 50 HP; and 440 volts for motors of 50-HP and less.

Construction of this Pryor mill was started in Feb., 1951, the planning and supervision of erection having been performed by the general engineering department of Certain-teed Products Corp., with headquarters at Ardmore, Pa. W. G. Mill, chief engineer, originated the design and plant layout, and Helge C. Johnson served as project engineer. James H. Burkhart, who served as assistant project engineer remained as plant engineer. Other company engineers active in connection with the construction work included A. A. Adams, L. J. Magee, and L. A. Sawver.

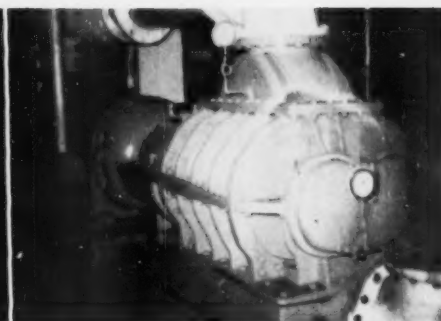
J. W. Hart is mill manager, and W. H. Young, superintendent.

Ohio Committee

Program committee for Ohio TAPPI for 1952-1953 consists of chairman, Harold Joiner, Champion Paper & Fibre Co.; and members, Ellsworth Shiver, Mead; Les McGowan, Sorg; Robert H. Mosher, Miami Valley Coated; Mm. Aiken, Gardner Board; Carl Ireton, Specialty Paper; Frank C. Duval, Shartle Brothers, and Travis Holden, Howard Paper.



DRIVE FOR BIG BELOIT Yankee on Hoberg's new machine is on balcony shown at left, with 250 hp. force-ventilated Reliance motor at extreme



left. Picture at right: Roots-Connersville two stage vacuum pump for suction press roll and pressure roll.

Paperboard Record

Good news in the board industry—for two successive weeks in September, paperboard production in the U.S. set new high records for the year. The week ending Sept. 20 saw 234,715 tons made (it was 233,756 the week before) and this was 9% above the same corresponding week in 1951.

Clarence Kinney Dies

Clarence E. Kinney, 76, prominent for many years in the naval stores industry and Hercules Powder Co., died Nov. 25 in Kansas City, Mo. His home was at 1105 W. 76th Street Terrace, Kansas City.

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FOR PAPER MILLS

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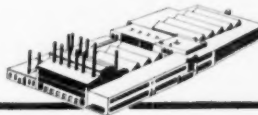
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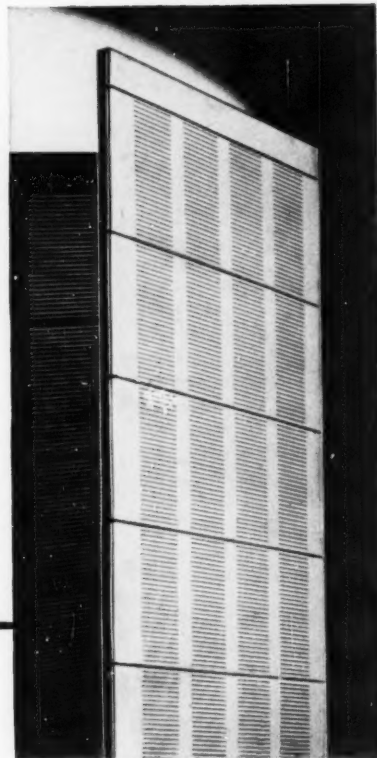
Complete information is yours on request. Or if you like, we'll gladly have an engineer call.



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VALVES: GATE, SWING CHECK, BLOW, GLOBE, ANGLE AND "Y"



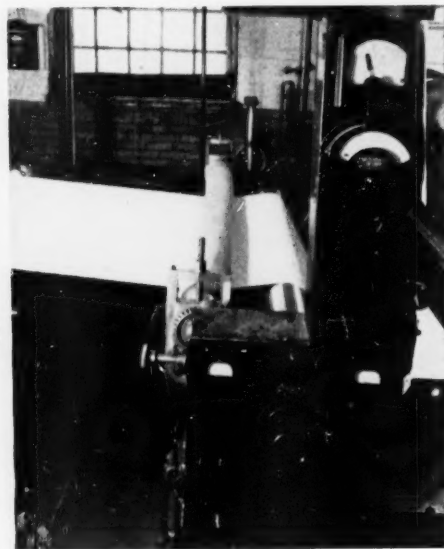
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WHEELING
EXPANDERS

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You, too, can get complete satisfaction with savings effected thru applications of Mount Hope Ball Bearing Expanders in your plant. Equally effective on all types of machines, on wet or dry paper, they completely eliminate wrinkles and baggy edges that cause out-of-register printing.

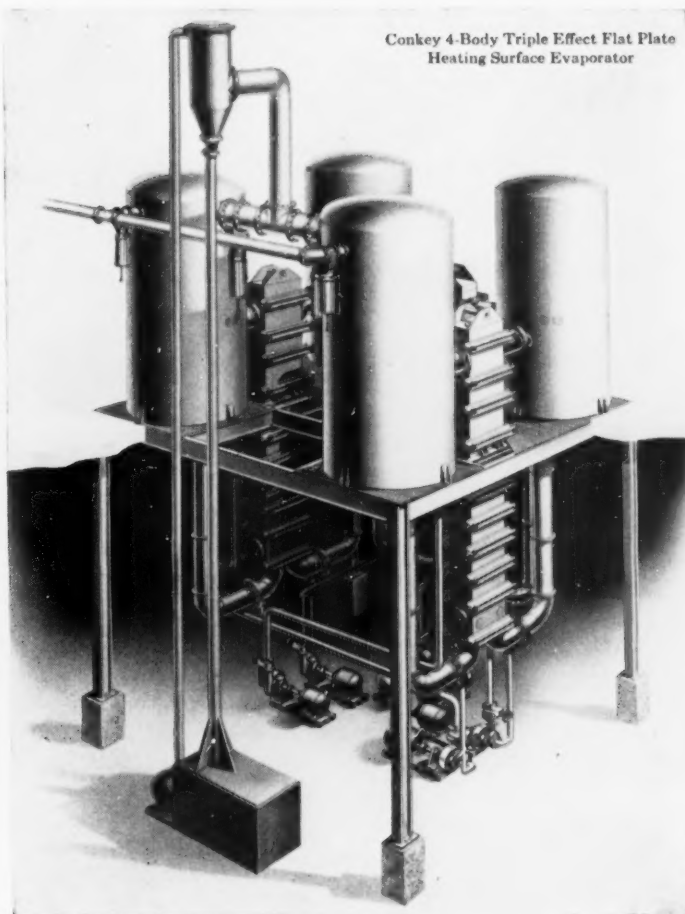
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NO *shut down time!* *stream pollution!* *scale removal costs!*



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Heating Surface Evaporator

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white water
to less than
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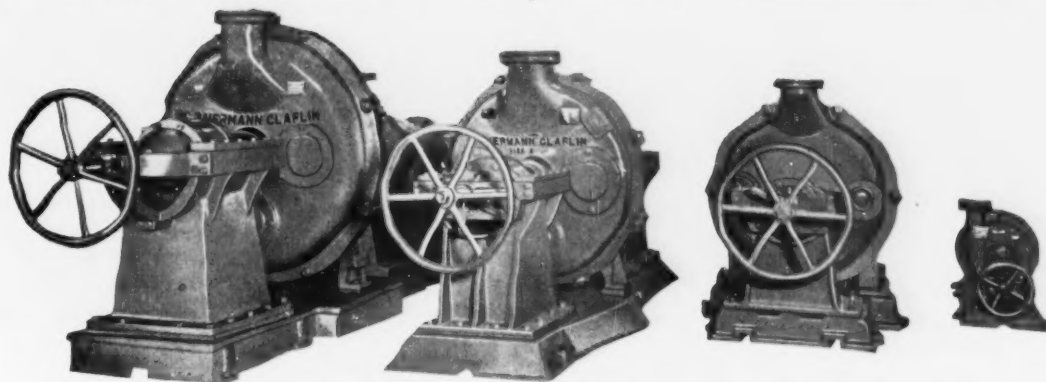
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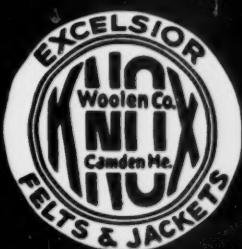
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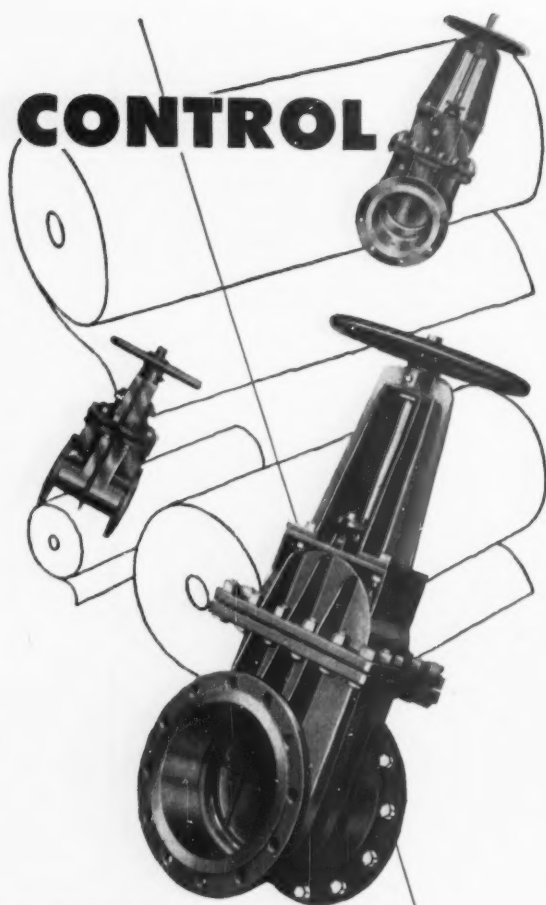
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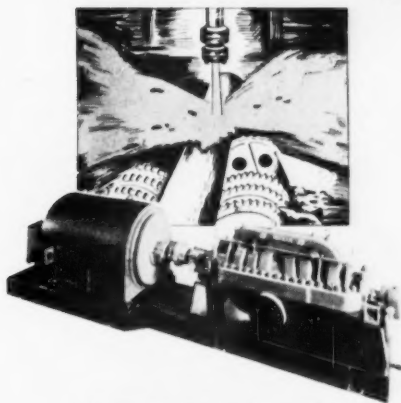
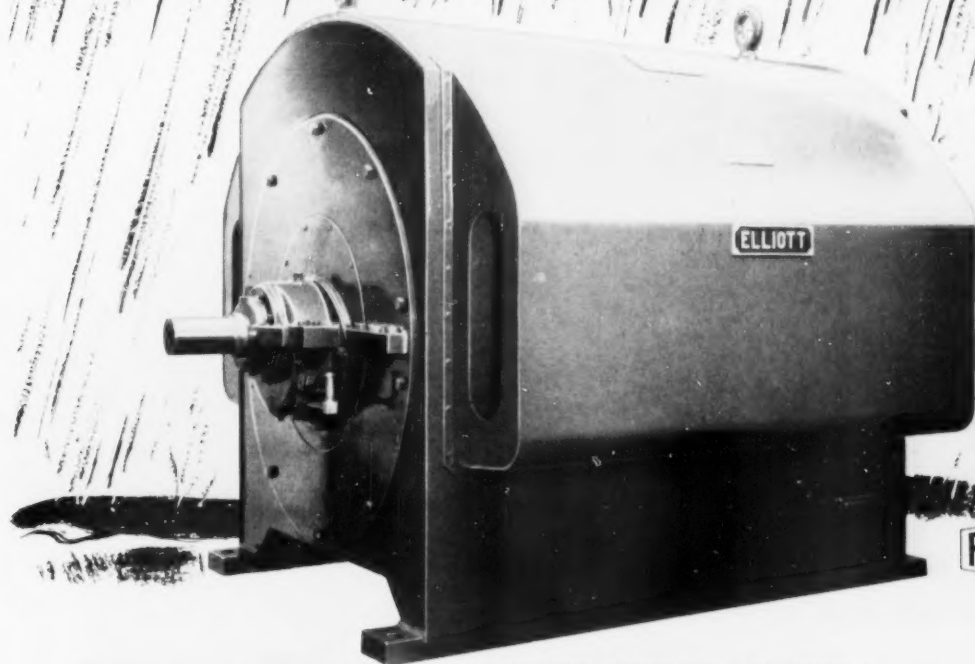
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